

11/11  
EXECUTIVE SUMMARY

Draft Environmental Impact Report/  
Supplemental Draft Environmental impact Statement

January 1995

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BART – SAN FRANCISCO  
AIRPORT EXTENSION

[1995]

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## EXECUTIVE SUMMARY

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### **BART–San Francisco Airport Extension Draft Environmental Impact Report/ Supplemental Draft Environmental Impact Statement**

The San Francisco Bay Area Rapid Transit District (BART) and the San Mateo County Transit District (SamTrans) are jointly proposing to extend BART rail transit service to the vicinity of the San Francisco International Airport (SFIA). The project corridor for this proposed extension is located in the larger nine-county region known as the San Francisco Bay Area (see Figure S-1). The corridor encompasses the northern portion of San Mateo County through the communities of Colma, South San Francisco, San Bruno, Millbrae, and Burlingame. The corridor generally follows the Southern Pacific Transportation Company (SPTCo) San Bruno branch between Colma and San Bruno, and then merges with the SPTCo mainline between San Bruno and Burlingame.

### **Project Background, Purpose, and Need**

#### **Is this Project a New Idea?**

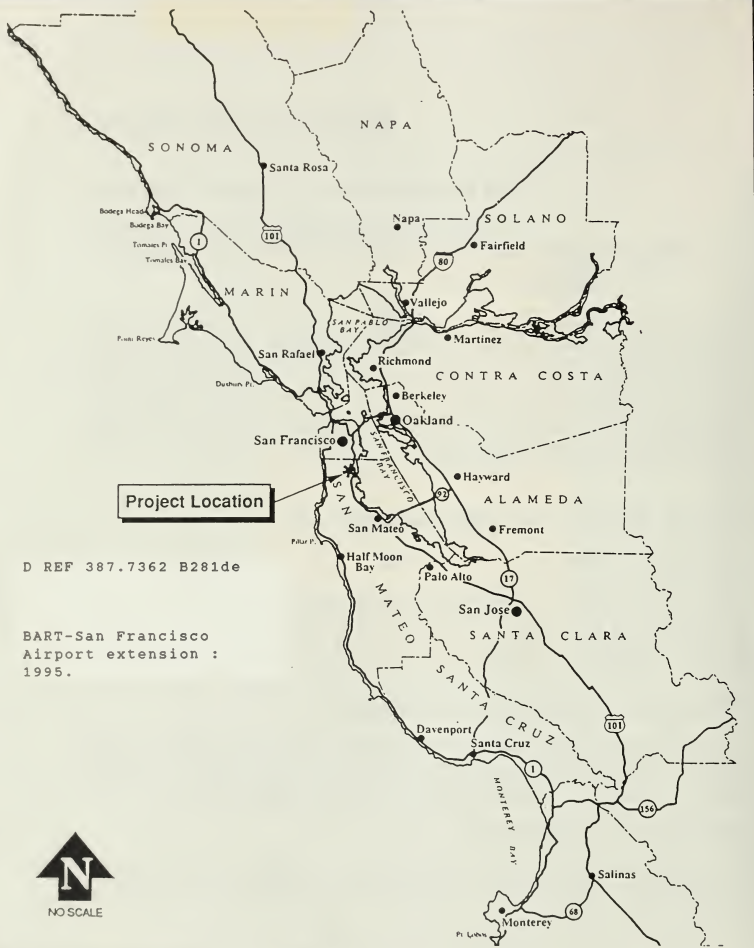
The BART–San Francisco Airport Extension has had a long history, dating back to 1972, when the *San Francisco Airport Access Project Report* first recommended the concept of bringing BART to the San Francisco International Airport (SFIA). Over the past 22 years, a number of milestones have brought this important regional connection closer to fruition. Table S-1 identifies some of the more significant planning studies and milestones.

#### **What is this Project Supposed to Accomplish?**

Since its inception, the reasons for a BART connection to SFIA have remained relatively constant: to provide a mass transit alternative for travelers along the San Francisco Peninsula, particularly northern San Mateo County, and to provide high-speed, efficient transit service between San Francisco, San Mateo County, and the growing SFIA.

#### **Why Do We Need This Project?**

A number of circumstances underscore the need for this extension of BART service. Highlighted below are the principal reasons why the project is being advanced and why it is especially timely.



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Airport extension :  
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FIGURE

S-1

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S-2

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**Table S-1**  
**Milestones in BART–San Francisco Airport Extension Planning Efforts**

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- 1972 ■ The San Francisco Airport Access Project Report studied various BART alignments to the SFIA
- 1984 ■ The Senate Concurrent Resolution 74 – Peninsula Mass Transit Study (SCR74) studied and compared alignments and travel modes from San Francisco to San Jose
- 1988 ■ Metropolitan Transportation Commission (MTC) New Rail Transit Starts and Extensions Program (Resolution 1876) lists the BART–San Francisco Airport Extension as the first regional priority for federal funding
- 1989 ■ MTC authorized to lead a pre-Alternatives Analysis Screening Process
- 1990 ■ U.S. Department of Transportation, Urban Mass Transportation Administration (UMTA) approves MTC's request to initiate Alternatives Analysis process
- 3/1991 ■ Intermodal Surface Transportation Efficiency Act of 1991 calls for completion of the BART–San Francisco Airport Extension with funding “earmarked” for the project
- 5/1992 ■ BART Board of Directors adopts resolution defining the Locally Preferred Alternative (LPA), signaling selection of a preferred alternative alignment for which further environmental and engineering studies will be prepared
- 6/1992 ■ MTC Policy Committee recommends the LPA
- 6/1992 ■ SamTrans Board of Directors and MTC adopt LPA; BART Board reaffirms LPA
- 7/1992 ■ BART submits grant application for final environmental documentation and preliminary engineering
- 10/1992 ■ U.S. Department of Transportation, Federal Transit Administration (FTA, formerly UMTA) approves continuation of environmental work and preliminary engineering
- 5/1993 ■ FTA Award of Grant for final environmental documentation and preliminary engineering
- 

Source: BART; Ogden.

**Regional Travel Demand** – Regional travel forecasts indicate that traffic flow from San Mateo and Santa Clara counties to downtown San Francisco will increase 16 percent between 1987 and 2010, and traffic to and from the SFIA will increase 52 percent over the same period.

**Highway 101/Interstate 280 Congestion** – Given the regional travel demand noted above, the burden on the Peninsula's two primary north/south highways will increase. The California Department of Transportation (Caltrans) indicates that traffic on these critical arteries near the SFIA and into San Francisco *already* regularly exceeds capacity. With projected demand, the periods of stop-and-go conditions on the highways will rise significantly.

**Airport Growth** – The SFIA has recently embarked upon a major expansion program that will increase the number of annual air passengers by 70 percent between 1990 and 2006. Since more than 65 percent of air passengers and employees drive to the SFIA, automobile congestion will increase dramatically without better connections to the regional rail transit network.

**Regional Air Quality** – Air quality attainment plans prepared under state and federal law by the Bay Area Air Quality Management District, with the cooperation of the Metropolitan Transportation Commission and the Association of Bay Area Governments, include a variety of measures intended to improve air quality to the level of the state and federal standards, and then to maintain air quality at that level. One of the key transportation-related measures is the expansion of regional rail transit, with extension of BART to the San Francisco International Airport specifically identified as part of that expansion. The BART-San Francisco Airport Extension, combined with other regional rail projects, is projected to reduce reactive hydrocarbon by 1.2 tons per day, nitrogen oxides by 1.7 tons per day, and carbon monoxide by 17.0 tons per day.

**Public Mandate** – A number of actions by public agencies signaled support for a BART extension to the SFIA. The Metropolitan Transportation Commission, the regional entity responsible for assigning transportation priorities and channeling state and federal funds, has made the BART project its first priority for federal funding. In addition, San Mateo County voters have authorized and supported funding for the extension on several occasions, most recently in 1987.

## Purpose of the DEIR/SDEIS

### What is the DEIR/SDEIS and What Does it Contain?

The Draft Environmental Impact Report (DEIR) has been prepared pursuant to the California Environmental Quality Act (CEQA). This legislation requires project sponsors to prepare a document that describes the nature of the project, the potential effects of the project (particularly those considered "significant"), various measures to reduce or eliminate the significant effects, and possible alternatives that could achieve the project's objectives and minimize some of the significant effects. The legislation also encourages public and agency comments on impacts and alternatives as part of the process of selecting a preferred project. The Supplemental Draft Environmental Impact Statement (SDEIS) has been prepared pursuant to the National Environmental Policy Act (NEPA) and is intended to similarly document potential effects of the project on the human and physical environments.

The proposed extension of BART to the vicinity of the SFIA is subject to both the federal requirements for preparation of an EIS under NEPA and the state requirements for preparation of an EIR under CEQA. In any instance in which a project is subject to both NEPA and CEQA, federal and state or local agencies are encouraged to work closely with one another to prepare a single document which complies with both NEPA and CEQA. Thus, the joint DEIR/SDEIS is the result of BART, SamTrans, and FTA working in concert to meet both the spirit and the letter of NEPA, CEQA and all other applicable federal and state laws.

However, the requirements of NEPA and CEQA are not necessarily one and the same: certain requirements differ in that either the state or the federal requirement is more stringent. In addition, both CEQA and NEPA incorporate requirements which are not duplicated in the other statute. Finally, the proposed BART–San Francisco Airport Extension is subject to federal and state environmental statutes and regulations separate and apart from NEPA and CEQA, which require analyses to be incorporated into the EIS/EIR. In any of these circumstances, the joint DEIR/SDEIS has been prepared in compliance with the more stringent or more complete requirements, whether they be federal or state. For example:

- CEQA requires that each significant impact of a project be identified in the EIR and feasible mitigation measures or alternatives be identified and implemented. NEPA, however, requires only a consideration of potentially significant adverse environmental impacts, and evaluation of all reasonable alternatives and the suggestion of appropriate mitigation measures. Thus, the DEIR/SDEIS identifies each significant impact of the proposed BART–San Francisco Airport Extension in order to meet the requirements of CEQA.
- CEQA requires an analysis of growth-inducing and cumulative impacts, while NEPA requires neither. The DEIR/SDEIS incorporates both types of impacts.
- Department of Transportation regulations require that a Section 4(f) evaluation be prepared in compliance with Section 4(f) of the Department of Transportation Act of 1966 (now codified at 49 U.S.C 1653(f)) and incorporated into the EIS. Therefore, the Section 4(f) evaluation has been included as Chapter 5 of the DEIR/SDEIS.

Both the Counsel on Environmental Quality Guidelines implementing NEPA and the CEQA Guidelines recommend that an EIS or an EIR be limited to approximately 300 pages in length. In certain circumstances, however, such as with a project of the magnitude and complexity of this proposed BART extension, it is necessary in order to comply with CEQA, in particular, to provide more detailed information than can be accommodated in 300 pages.

Therefore, in order to meet the spirit and the letter of both CEQA and NEPA, to assist in compliance with other applicable laws, and to provide a more useful and informative document for the public and the decision makers, the joint federal and California document has been compiled in four volumes:

- this Executive Summary;
- the SDEIS and a summary of the DEIR, referred to as the DEIR/SDEIS;
- the DEIR and a technical appendix to the SDEIS, known as the DEIR/Technical Appendix; and
- the Design Appendix, containing the plans and profiles for all the alignments under study.



The DEIR/SDEIS is intended to provide a more focused, summary analysis and complies with the suggested 300-page limitation, whereas the DEIR/Technical Appendix contains the comprehensive information necessary to comply with CEQA and also provides detailed background to the SDEIS. Given, however, that both this Executive Summary and the DEIR/SDEIS are derived from the DEIR/Technical Appendix, and are intended primarily as summaries of this latter document, the reader who is interested in the greatest level of detail available regarding any particular aspect of the proposed BART–San Francisco Airport Extension should consult the DEIR/Technical Appendix. Should there be inadvertent inconsistency between and among these documents, the information contained in the DEIR/Technical Appendix is the baseline information.

## **Wasn't an Environmental Report Already Prepared?**

The DEIR/SDEIS supplements an earlier document completed by MTC, BART, SamTrans, and the FTA in 1992 entitled *Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report* (AA/DEIS/DEIR).

The objective of the AA/DEIS/DEIR was to consider a range of alternatives to improve mass transit service in northern San Mateo County and provide a transit connection between San Francisco, San Mateo County, and the SFIA. The AA/DEIS/DEIR evaluated five different BART alternatives, in addition to a “No Build” scenario and an alternative that focused on enhancing other existing transit systems, the Transportation Systems Management Alternative. In Spring 1992, a Locally Preferred Alternative was nominated, consisting of the extension of BART to a station about one mile west of the SFIA terminals, with connections to the SFIA via an Airport Light Rail System and to Highway 101 via new access roads and ramps. The selection of this alternative (which is the “proposed project” in the DEIR/SDEIS) makes it the preferred alignment of BART, SamTrans, and MTC and the basis for further environmental and engineering studies. The documentation supporting the Locally Preferred Alternative is reviewed by FTA in determining whether to commit federal funds for the additional environmental and engineering studies. As shown in Table S-1, FTA authorized this work in May 1993.

## **Why is Another Environmental Report Being Prepared?**

Before the project could be adopted, BART and SamTrans were obligated to review public comments on the AA/DEIS/DEIR and to prepare responses in a Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR). Public and agency comments were extensive, recommended more detailed analyses, and identified viable alternatives to those studied in the AA/DEIS/DEIR. For these reasons, BART and SamTrans have elected instead to respond to the comments by providing more detailed information and considering other alternatives in a new DEIR. FTA concurred with this decision and recommended that a supplement to the DEIS be prepared concurrently.



# Description of Project Alternatives

## How Many Different Alternatives Have Been Studied?

At the outset of the DEIR/SDEIS effort, BART and SamTrans invited the public to participate in a “Public Scoping Meeting.” The purpose of the meeting was to solicit ideas about how transit service could be improved in northern San Mateo County and to obtain public concerns about potential environmental impacts of the project alternatives. This meeting, held in July 1993, resulted in a menu of 19 alternatives, in addition to the Locally Preferred Alternative previously selected by the BART and SamTrans Boards of Directors and MTC. A detailed presentation of these alternatives, which include alignments that had been previously identified, and the reasons for rejection of certain alternatives are contained in the DEIR/Technical Appendix.

## How Were the Alternatives in the DEIR/SDEIS Selected?

BART and SamTrans developed two sets of criteria to assist the Boards of Directors in identifying a smaller set of viable alternatives for evaluation in the DEIR/SDEIS. These criteria were selected by BART and SamTrans to highlight key operational, funding, engineering, and environmental differences among the alternatives. Engineering, logistic, feasibility requirements, and project goals were the basis for the first set of criteria. A project alternative had to satisfy these criteria if it were to be considered further. The second set of criteria were used to compare those alternatives that satisfied the first set of criteria, and included costs, funding availability, patronage, convenience for transit riders, potential wetland and endangered species impacts, land acquisition requirements, potential impacts to residences and businesses sensitive to noise and vibration, and potential construction impacts. These criteria are reproduced in Table S-2. Each alternative was evaluated in a comparative fashion, using these criteria. This screening process, along with meetings with each of the local jurisdictions along the project corridor, was used to select those alternatives recommended for further evaluation in the DEIR/SDEIS.

## What Alternatives are Studied in the DEIR/SDEIS?

Seven basic alternatives and three major design options are analyzed in the DEIR/SDEIS:

- Proposed Project, the Locally Preferred Alternative
  - I-380 Least-Cost Design Option to the Proposed Project
- Alternative I: No Build
- Alternative II: Transportation Systems Management (TSM)
- Alternative III: BART to Airport Intermodal (Base Case)
- Alternative IV: Airport Aerial East of Highway 101 to Millbrae Intermodal
- Alternative V: Minimum Length Subway to Millbrae Intermodal
  - Design Option V-A: Minimum Length Subway to Airport Ground Transportation Center
  - Design Option V-B: Minimum Length Subway to San Bruno
- Alternative VI: Millbrae Avenue via the Airport International Terminal

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**Table S-2**  
**Screening Criteria Used to Select**  
**BART–San Francisco Airport Extension Alternatives for the DEIR/SDEIS**

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**THRESHOLD CRITERIA**

- Permits BART/CalTrain intermodal connection
- Accommodates a future BART extension south
- Sustains 2-1/4-minute BART headways during peak travel periods
- Satisfies BART/CalTrain/SFIA design and safety criteria
- Lies within the San Francisco to SFIA corridor

**COMPARATIVE CRITERIA**

**Costs**

- Order of magnitude capital cost (millions 1991\$)
- Funding shortage
- Order of magnitude BART incremental annual operating and maintenance cost (millions 1991\$)

**Convenience**

- BART/CalTrain/Airport light rail connection
- Air passenger walking distance to central terminal (in feet)
- Functional end-of-line commuter station

**Operations**

- Patronage (from MTC model runs)
  - work/non-work
  - air passengers
- BART operations and failure management
- Number of BART routes that can be accommodated

**Environmental**

- Construction impacts
- Wetlands impacts
- Number of sensitive species impacted
- Traffic impacts (identified affected streets and neighborhoods)
- Other major environmental impacts

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Source: BART, 1993.

The **No Build Alternative** is essentially a “do-nothing” scenario. The only new transportation improvements anticipated in the project vicinity include the extension of BART to Colma and the repair of I-280 between Highway 101 and 6th Street in San Francisco. This alternative provides a future baseline against which to assess project impacts.

The **TSM Alternative** includes a number of transportation improvements that are planned by the Peninsula Commute Service (known as CalTrain, a diesel-operated commuter rail service along the Peninsula), San Mateo County, and local agencies. Key improvements in the project vicinity, in addition to those assumed under the No Build Alternative, include:

- relocation of the existing San Bruno CalTrain Station to a new site under I-380;
- construction of a new CalTrain station west of Highway 101 across from the entrance to the SFIA;
- construction of an Airport Light Rail System (ALRS) serving the SFIA and the new CalTrain station west of Highway 101;
- increase in CalTrain service from 60 to 86 daily trains; and
- local roadway improvements such as the D Street overpass/on-ramp to I-280 in Colma, the extension of Hickey Boulevard eastward to a new full Highway 101 interchange at Oyster Point Boulevard in South San Francisco, and new turning lanes at the intersections of El Camino Real with Sneath and San Bruno Avenues in San Bruno.

Table S-3 highlights some of the key differences between the BART “build” alternatives. Chapter 2 of the DEIR/SDEIS describes each alternative, including the No Build and TSM Alternatives, in detail. The BART “build” alternatives and design options are generally shown in Figures S-2 and S-3 and are summarized below.

The **proposed project** or **Locally Preferred Alternative** proposes a BART extension, with a station at Hickey Boulevard in South San Francisco adjacent to the Tanforan Shopping Center in San Bruno, and a combined BART/CalTrain/Airport Light Rail Station (Intermodal Station) located west of Highway 101 near the SFIA terminals. From the Colma BART Station, presently under construction, the alignment would follow the SPTCo railroad right-of-way in subway through a below-grade Hickey Station to South Spruce Avenue, then ascend to grade at the Tanforan Station. From the Tanforan Station, the alignment would descend into a subway configuration, paralleling the north side of I-380, pass under I-380, continue in subway along the easterly limit of the City of San Bruno, then ascend to ground level at the Airport Intermodal Station. This alignment would bypass downtown San Bruno. The ALRS would carry air passengers and SFIA employees from the Intermodal Station to the SFIA. An approximately 3,000-foot tailtrack would extend south from the Airport Intermodal Station.

The **I-380 Least-Cost Design Option** of the proposed project calls for an alignment that would rise from the Tanforan Station on an aerial structure to I-380 over local streets and the CalTrain tracks, then descend and pass under I-380 in subway. The alignment would continue in a retained cut configuration along the easterly limit of the City of San Bruno, then ascend to ground level at the Airport Intermodal Station.

**Alternative III, the Base Case Alternative**, follows the same route as the proposed project from Colma to the Tanforan Station. From the Tanforan Station to the Airport Intermodal Station, the alignment would continue along the SPTCo railroad right-of-way. It would be built with open, retained cut tracks from Colma to Mission Road; at grade and open, retained

Summary of BART Build Alternatives\*

	Proposed Project Locally Preferred Alternative	Alternative III Base Case Alternative	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae Intermodal	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
Length	6.4 miles	6.1 miles	7.1 miles	6.9 miles	6.6 miles	5.7 miles	8.0 miles
Number of Stations	3	3	4	3	3	2	4
Station Profile	<ul style="list-style-type: none"> <li>• Hickey – subway</li> <li>• Tanforan – at grade</li> <li>• Airport Intermodal – at grade</li> </ul>	<ul style="list-style-type: none"> <li>• Chestnut – retained cut</li> <li>• Tanforan – at grade</li> <li>• Airport Intermodal – at grade</li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – subway</li> <li>• Tanforan – at grade, or I-380/San Bruno – aerial</li> <li>• Airport Long-Term Parking – aerial</li> <li>• Millbrae Intermodal – at grade</li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – subway</li> <li>• Tanforan – at grade, or I-380/San Bruno – subway, or Downtown San Bruno – subway</li> <li>• Airport Ground Transportation Center – subway or aerial</li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – subway</li> <li>• I-380/San Bruno or Downtown San Bruno – subway</li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – subway</li> <li>• Tanforan – retained cut</li> <li>• Airport International – subway</li> <li>• Millbrae Ave. – at grade</li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – subway</li> <li>• Tanforan – retained cut</li> <li>• Airport International – subway</li> <li>• Millbrae Ave. – at grade</li> </ul>
Parking Spaces	<ul style="list-style-type: none"> <li>• Hickey – 1,337</li> <li>• Tanforan – 650</li> <li>• Airport Intermodal – 2,325</li> <li><i>Total: 4,312</i></li> </ul>	<ul style="list-style-type: none"> <li>• Chestnut – 1,100</li> <li>• Tanforan – 650</li> <li>• Airport Intermodal – 2,325</li> <li><i>Total: 4,075</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – 1,337</li> <li>• Tanforan – 1,300, I-380 – 1,300</li> <li>• Airport Long-Term Parking – 100</li> <li>• Millbrae Intermodal – 1,300</li> <li><i>Total: 4,237-4,437</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – 1,337</li> <li>• Tanforan – 1,300, I-380 or Downtown San Bruno – 1,500</li> <li>• Airport Ground Transportation Center – 0</li> <li><i>Total: 4,337</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – 1,337</li> <li>• I-380 or Downtown San Bruno – 3,000</li> <li><i>Total: 4,337</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – 1,337</li> <li>• Tanforan – 1,000</li> <li>• Airport International Terminal – 0</li> <li>• Millbrae Ave. – 3,000</li> <li><i>Total: 5,337</i></li> </ul>	<ul style="list-style-type: none"> <li>• Hickey – 1,337</li> <li>• Tanforan – 1,000</li> <li>• Airport International Terminal – 0</li> <li>• Millbrae Ave. – 3,000</li> <li><i>Total: 5,337</i></li> </ul>
Intermodal Connections	<ul style="list-style-type: none"> <li>• Airport Intermodal-CalTrain/ALRS</li> <li>• All Stations – SanTrans</li> </ul>	<ul style="list-style-type: none"> <li>• Airport Intermodal – CalTrain/ALRS</li> <li>• All Stations – SanTrans</li> </ul>	<ul style="list-style-type: none"> <li>• I-380 – CalTrain</li> <li>• Airport Long-Term Parking – ALRS</li> <li>• Millbrae – CalTrain/ALRS</li> <li>• All Stations – SanTrans</li> </ul>	<ul style="list-style-type: none"> <li>• I-380 or Downtown San Bruno – CalTrain</li> <li>• Millbrae – CalTrain/ALRS</li> <li>• All Stations – SanTrans</li> </ul>	<ul style="list-style-type: none"> <li>• I-380 or Downtown San Bruno – CalTrain/ALRS</li> <li>• All Stations – SanTrans</li> </ul>	<ul style="list-style-type: none"> <li>• I-380 or Downtown San Bruno – CalTrain/ALRS</li> <li>• All Stations – SanTrans</li> </ul>	<ul style="list-style-type: none"> <li>• Millbrae Ave. – CalTrain</li> <li>• Airport International Terminal – ALRS</li> <li>• All Stations – SanTrans</li> </ul>
Daily Patronage Volumes (in 1998)	53,100	53,000	54,800	56,100	53,400	53,200	60,700
Capital Costs (BART only-thousands 1994 \$)	\$1,002,370	\$876,442	\$1,080,325	\$902,221	\$1,151,893	\$803,215	\$1,269,234
Capital Costs** (BART with ALRS-thousands \$)	\$1,046,370***	\$920,442	\$1,124,325	\$946,221	\$1,195,893	\$847,215	\$1,269,234
Operating and Maintenance Costs (system wide with extension – millions \$/yr)	\$278.7	\$278.2	\$281.8	\$279.5	\$279.5	\$275.8	\$282.9

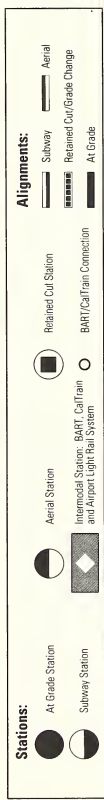
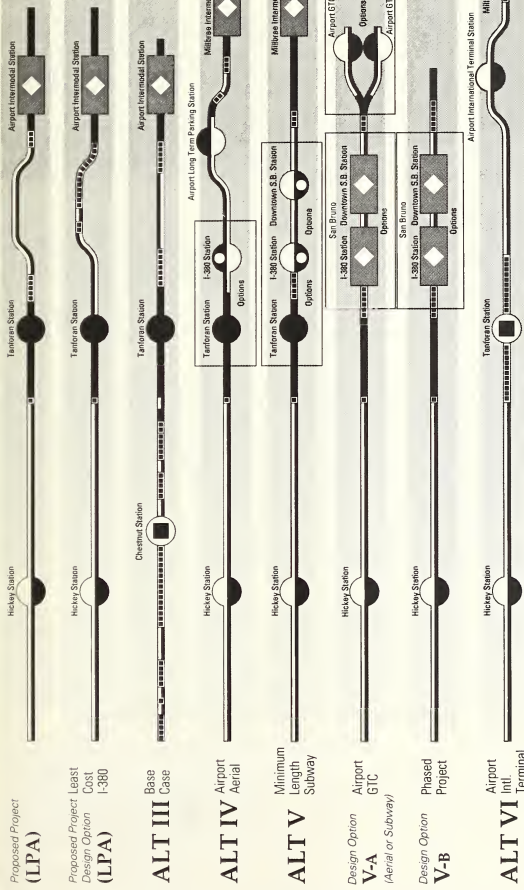
Source: BART

Other alternatives not presented here include the No Build Alternative and the Transportation Systems Management Alternative.

Capital costs include \$44,000,000 for an ALRS which will be covered by others. The ALRS is included in all alternatives, except Alternative VI.

\*\*\* With the I-380 Lease-Cost Design Option, capital cost would be \$977.130 with the ALRS.

ALRS = Airport Light Rail System



FIGURE

Comparison of Alignment Alternatives and Design Options

cut to the proposed extension of Hickey Boulevard; retained cut from the Hickey Station to south of South Spruce Avenue; at grade to the Tanforan Station; and aerial over streets in San Bruno, descending to the at-grade Airport Intermodal Station. The ALRS would carry air passengers and SFIA employees from the Intermodal Station to the SFIA. An approximately 3,000-foot tailtrack would extend south.

**Alternative IV** follows the same route as the proposed project north of Tanforan Avenue. The San Bruno station would be located at either Tanforan or just south of I-380 in San Bruno. South of Tanforan Avenue, the alignment would rise on an embankment to an aerial structure and curve eastward along San Bruno Avenue. The BART aerial alignment would continue east and cross over Highway 101, then curve south to a BART Airport Station located at the Airport long-term parking lot. South of the Airport Station, BART would parallel the SFIA's viaduct and descend under Highway 101, rising to an at-grade Millbrae Intermodal Station at Center Street. The ALRS would carry SFIA passengers and employees from the BART Airport Station and the Millbrae Intermodal Station to the SFIA. An approximately 3,000-foot tailtrack would extend at grade south of the Millbrae Intermodal Station.

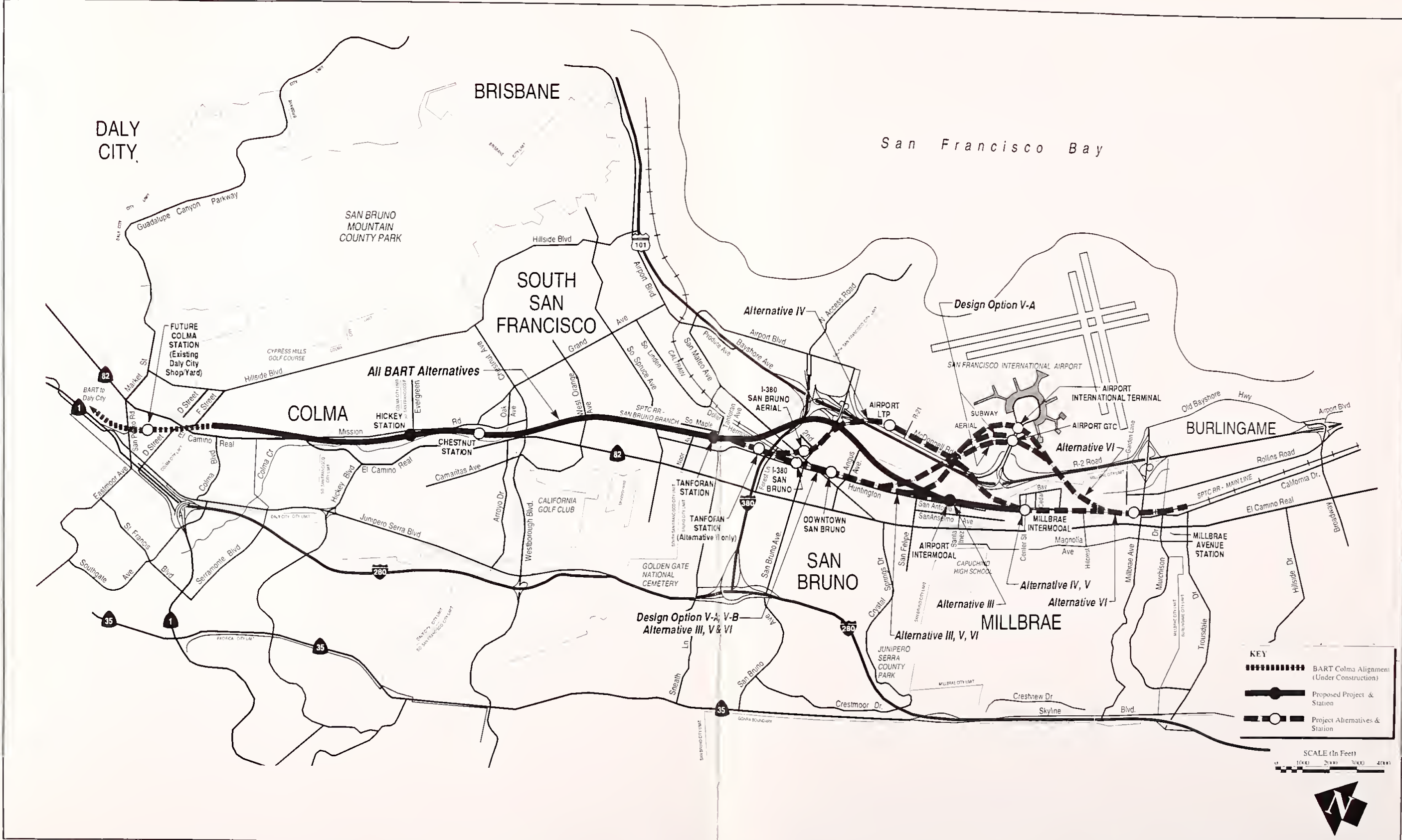
**Alternative V** follows the same route as the proposed project north of Tanforan Avenue. The San Bruno station would be located at Tanforan, I-380/San Bruno, or in downtown San Bruno. BART would be in subway through downtown San Bruno from approximately San Bruno Avenue to Angus Avenue. South of Angus Avenue, BART would ascend to grade to a Millbrae Intermodal Station at Center Street. The ALRS would carry air passengers and SFIA employees from the Millbrae Intermodal Station to the SFIA. An approximately 3,000-foot tailtrack would extend at grade south of the Millbrae Intermodal Station.

**Design Option V-A** is identical to the proposed project to Tanforan Avenue. A San Bruno BART/CalTrain/Airport Light Rail Intermodal Station would be located at either the proposed I-380/San Bruno or Downtown San Bruno Station locations. South of the San Bruno Station, BART would be either in a subway or an aerial configuration to the proposed Airport Ground Transportation Center (GTC). The BART subway configuration would turn east under Highway 101 and then south into the subterranean level of the GTC. The BART aerial configuration also turns east and ascends from a subway to an aerial structure crossing over Highway 101 and then turns south to an aerial GTC Station immediately west of and perpendicular to the Airport GTC. Access to the SFIA terminals and employment centers would be available by elevator/escalator and the ALRS. As in Alternative V, BART would be in subway through downtown San Bruno, and an approximately 3,000-foot tailtrack would extend at grade south of the San Bruno Station.

**Design Option V-B** is identical to the proposed project north of Tanforan Avenue. Under this design option, there would be no Tanforan Station but rather a San Bruno Intermodal Station located at either I-380/San Bruno or downtown San Bruno. As in Alternative V, BART would be in subway through downtown San Bruno. An approximately 3,000-foot tailtrack would extend south of the San Bruno Intermodal Station. Design Option V-B would allow for either a future subway into the basement of the Airport GTC, as described in Design Option V-A, or a continuation south in the SPTCo right-of-way to Millbrae.

Under **Alternative VI**, the alignment would follow the SPTCo right-of-way in subway from the Colma BART Station, presently under construction, to South Spruce Avenue. South of South Spruce Avenue, the alignment would be in subway through downtown San Bruno between San Bruno Avenue and Angus Avenue. The BART alignment would turn east under Highway 101 in subway, then turn south to a subway Airport International Terminal Station. BART passengers would access the proposed International Terminal by elevators









and escalators, and other terminals by walking or transferring to the proposed ALRS. SFIA employees would access the station via the ALRS. South of the Airport International Terminal Station, BART would curve southwest under Highway 101 and rise to an at-grade Millbrae Avenue BART/CalTrain Station. An at-grade BART turnback and tailtrack would extend south of Millbrae Avenue approximately 3,000 feet.

## Impacts of Project Alternatives

### What Significant Adverse Impacts Might Occur for a Particular Alternative?

A summary of the key impacts, or effects, for each alternative is presented in Table S-4. The impacts identified in Table S-4 include operational effects, i.e., those that would occur if the project were constructed and operating.

In addition to operational effects, there are a number of impacts that would occur during the construction period. These impacts are common to all the BART build alternatives, and would affect the project corridor primarily between mid-1996 and mid-1998 (see Table S-5).

The DEIR/SDEIS also identifies cumulative impacts. These impacts result from the proposed project in combination with other known and foreseeable projects, such as the San Francisco International Airport Master Plan and the El Camino Corridor redevelopment project. Cumulative impacts with the BART build alternatives are summarized in Table S-6.

The DEIR/SDEIS presents these impacts in Chapter 3 and concentrates on “significant adverse” effects. A comprehensive list of the significant effects is presented in Table S-7 at the end of this Executive Summary. The threshold between a significant and insignificant impact is based on significance criteria that are defined for each environmental issue considered in the DEIR/SDEIS. The criteria are based on state and federal standards and guidelines, professional engineering practices, and professional judgment.

### Can the Impacts be Reduced or Eliminated?

For every significant adverse impact identified in the DEIR/SDEIS, mitigation measures are proposed to reduce or eliminate the effects. A summary of these measures is contained in Table S-8 at the end of this Executive Summary. In some instances, the proposed mitigation measure will not reduce the impact to an insignificant level. In these cases, the impact remains significant and is said to be “unavoidable.” Unavoidable, significant effects identified in the DEIR/SDEIS are specially noted in Table S-7 by using **underlined boldface text**, and are summarized in Chapter 4 of the DEIR/SDEIS. Before the project can be adopted, BART and SamTrans will be required to examine each of these unavoidable, significant impacts and determine whether the benefits associated with the project outweigh the unavoidable adverse effects.

### Are There Any Areas of Controversy?

There are a number of controversies that have been raised for each of the project alternatives and are of significant concern to local communities, groups, or organizations. These areas of controversy highlight critical social and economic implications of the proposed extension and are indicated below, by jurisdiction:

■ **Colma**

- Extent and duration of construction activities because of disturbances to local circulation, noise and dust, and pedestrian safety
- Disruption of cemetery services during construction of any of the BART build alternatives, and during operations under the Base Case Alternative
- Visual and physical impacts to cemeteries and loss of landscaping with any profile other than subway

■ **South San Francisco**

- Extent and duration of construction activities because of disturbances to local circulation, noise and dust, and pedestrian safety, particularly for school-aged children
- Retained cut alignment and Chestnut Station location under the Base Case Alternative are inconsistent with city policy and local preferences for a subway system

■ **San Bruno**

- Extent and duration of construction activities because of disturbances to local circulation, noise and dust, and pedestrian safety, particularly for school-aged children
- Significant socio-economic impacts associated with potential alignment and stations in the downtown area, especially if alignment is in aerial configuration
- Disruption of the Fifth Addition neighborhood under the proposed project and the I-380 Least-Cost Design Option, the Belle Air residential neighborhood under the Base Case Alternative and Alternatives IV and V, and the Central Business District under Alternatives IV and V as a result of displacement of residences and businesses
- Loss of municipal property tax revenues associated with displacement
- Loss of revenues for the San Bruno Park School District due to relocation of students

■ **Millbrae**

- Extent and duration of construction activities because of disturbances to local circulation, noise and dust, and pedestrian safety, particularly for school-aged children
- Disruption of neighborhoods through displacement of businesses and residences under Alternatives IV, V, and VI and their design options
- Loss of municipal property tax revenues associated with displacement under Alternatives IV, V, and VI and their design options
- Loss of revenues for the Millbrae School District due to relocation of students under Alternatives IV, V, and VI and their design options

■ **Burlingame**

- Extent and duration of construction activities because of disturbances to local circulation, noise and dust, and pedestrian safety under Alternative VI
- Traffic impacts along local streets of BART passengers seeking to access the end-of-the-line station at Millbrae Avenue under Alternative VI

■ **SFIA Property west of Highway 101**

- Loss of wetlands and habitat for the San Francisco Garter Snake

Table S-4  
Summary Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Traffic</b>										
<ul style="list-style-type: none"> <li>Deterioration to or Exacerbation of Unacceptable LOS at Local Intersections (Compared to 1993 conditions)</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at Hickey extension/ station exit in PM, El Camino Real/ Sneath in PM, and Chestnut/Grand in PM.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at Chestnut/Grand, El Camino Real/ Westborough, El Camino Real/Sneath, and California/ Broadway.</li> <li>Exacerbates already unacceptable LOS at Junipero Serra/ Westborough, El Camino Real/Noor, and 2nd/San Bruno.</li> </ul>	<ul style="list-style-type: none"> <li>Generally same or improved LOS at local intersections.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at El Camino Real/Sneath.</li> <li>Exacerbates already unacceptable levels of service at Junipero Serra /Westborough.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at the Hickey extension/station exit in PM, Chestnut/ Grand in PM and San Mateo/ Huntington and San Anselmo/Center in PM.</li> <li>If Tanforan Station option were selected, reduced LOS at El Camino Real/ Sneath.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative IV <i>plus</i></li> <li>For the Downtown San Bruno Station option, impacts would be the same as those identified for the I-380/San Bruno Station except that San Mateo/Angus would also be significantly affected.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at San Mateo/ Huntington in PM, San Mateo/ Lumber Yard Kiss-and-Ride exit in PM, the Hickey extension/ station exit and Chestnut/Grand, in PM.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at Hickey extension/ station exit and Chestnut/Grand in PM; El Camino Real/Sneath, Huntington/Tanforan Driveway North in PM, and El Camino Real/Millbrae in AM.</li> </ul>
<b>Land Use</b>										
<ul style="list-style-type: none"> <li>Displacement</li> </ul>	<ul style="list-style-type: none"> <li>120 residents; up to 130 employees.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>No displacement.</li> </ul>	<ul style="list-style-type: none"> <li>No or little displacement.</li> </ul>	<ul style="list-style-type: none"> <li>No residential displacement; up to 40 employees.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 560 residents; up to 490 employees.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 600 residents; up to 605 employees.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 650 residents; up to 565 employees.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 525 residents; up to 60 employees.</li> </ul>
<ul style="list-style-type: none"> <li>Community Cohesion/Local Economic Activity in Station Vicinity</li> </ul>	<ul style="list-style-type: none"> <li>Minimally affects real estate or economic development <i>except</i></li> <li>At Hickey where it supports local development objectives.</li> <li>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>Minimally affects real estate at the CalTrain/Airport Light Rail Station.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with residential development objectives in South San Francisco.</li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> <li>Chestnut Station displaces 18-stall golf driving range and bar/cafe.</li> <li>Displaces businesses around Chestnut Station.</li> </ul>	<ul style="list-style-type: none"> <li>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> <li>Loss of municipal and school tax revenues in San Bruno with I-380 Station option.</li> <li>Economic / isolation impacts in Millbrae.</li> <li>Loss of the Millbrae Nursery School and Marino Vista Park.</li> </ul>	<ul style="list-style-type: none"> <li>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> <li>Loss of municipal and school tax revenues in San Bruno, with either I-380 or Downtown San Bruno Station.</li> <li>Disrupts the San Bruno Central Business District.</li> <li>I-380/ San Bruno Station affects Belle Air and San Bruno Park neighborhoods.</li> <li>Loss of Posy Park with Downtown San Bruno Station.</li> <li>Economic / isolation effects in Millbrae.</li> <li>Loss of the Millbrae Nursery School and Marino Vista Park.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V <i>except</i></li> <li>Impact in San Bruno would be greater due to larger station; ALRS would further fragment Belle Air neighborhood <i>plus</i></li> <li>There would be no impacts at the Tanforan or Millbrae Intermodal Stations.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A</li> </ul>	<ul style="list-style-type: none"> <li>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</li> <li>Loss of municipal and school tax revenues in San Bruno and Millbrae;</li> <li>Requires relocation of Millbrae Gardens.</li> </ul>



Table S-4 (continued) Summary Comparison of Key Impacts										
Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Land Use (continued)</b> <ul style="list-style-type: none"><li>Community Cohesion/Social Considerations (Not in Station Vicinity but along Alignment)</li></ul>	<ul style="list-style-type: none"><li>Fragments Fifth Addition.</li><li>Impacts Belle Air neighborhood.</li><li>Reduces supply of low-cost housing in San Bruno and San Mateo County.</li></ul>	<ul style="list-style-type: none"><li>Fragments Fifth Addition more than proposed project because of aerial configuration.</li><li>Impacts Belle Air Elementary School and 7th and Walnut Park.</li></ul>	<ul style="list-style-type: none"><li>No neighborhood impacts.</li></ul>	<ul style="list-style-type: none"><li>No BART-related neighborhood impacts.</li><li>Increased activity along CalTrain right-of-way would impact South San Francisco, San Bruno, and Millbrae, and along the Hickey Boulevard extension in South San Francisco.</li></ul>	<ul style="list-style-type: none"><li>Introduces land use incompatibility with cemeteries in Colma</li><li>Introduces physical barrier in South San Francisco and San Bruno.</li><li>Displaces approximately 400 spaces of municipal, private, and CalTrain parking.</li></ul>	<ul style="list-style-type: none"><li>Introduces physical barrier in Belle Air neighborhood.</li><li>Impacts Belle Air neighborhood in San Bruno and Marino Vista and North Millbrae neighborhoods in Millbrae.</li><li>Reduces supply of low-cost housing in San Bruno and San Mateo County.</li></ul>	<ul style="list-style-type: none"><li>Impacts Belle Air neighborhood in San Bruno and Marino Vista and North Millbrae neighborhoods in Millbrae.</li><li>Reduces supply of low-cost housing in San Bruno and San Mateo County.</li></ul>	<ul style="list-style-type: none"><li>Same as Alternative V.</li></ul>	<ul style="list-style-type: none"><li>Same as Alternative V.</li></ul>	<ul style="list-style-type: none"><li>Same as Alternative V.</li></ul>
<b>Biological Resources</b> <ul style="list-style-type: none"><li>Total Wetland Loss (approximate acreage of wetlands and creek channels)</li></ul>	<ul style="list-style-type: none"><li>2.42</li></ul>	<ul style="list-style-type: none"><li>2.62</li></ul>	<ul style="list-style-type: none"><li>No effect.</li></ul>	<ul style="list-style-type: none"><li>1.09</li></ul>	<ul style="list-style-type: none"><li>1.82</li></ul>	<ul style="list-style-type: none"><li>1.80</li></ul>	<ul style="list-style-type: none"><li>1.26</li></ul>	<ul style="list-style-type: none"><li>1.27 to 1.28</li></ul>	<ul style="list-style-type: none"><li>1.12</li></ul>	<ul style="list-style-type: none"><li>0.87</li></ul>
<ul style="list-style-type: none"><li>Loss of Wetland Habitats inhabited by the San Francisco Garter Snake, California Red-legged frog, and the San Francisco Forktail Damselfly.</li></ul>	<ul style="list-style-type: none"><li>1.52 acres of wetland habitats and obstruction of movement corridors within sensitive wildlife species habitat.</li></ul>	<ul style="list-style-type: none"><li>1.54 acres of wetland habitats.</li></ul>	<ul style="list-style-type: none"><li>Results in continued decline of San Francisco Garter Snake and Red-legged frog habitat.</li></ul>	<ul style="list-style-type: none"><li>0.93 acres of wetland habitats.</li></ul>	<ul style="list-style-type: none"><li>1.16 acres of wetland habitat.</li></ul>	<ul style="list-style-type: none"><li>0.91 acres of wetland habitat.</li></ul>	<ul style="list-style-type: none"><li>0.37 acres of wetland habitat.</li></ul>	<ul style="list-style-type: none"><li>0.40 to 0.41 acres of wetland habitat.</li></ul>	<ul style="list-style-type: none"><li>0.25 acres of wetland habitat.</li></ul>	<ul style="list-style-type: none"><li>No displacement of wetlands habitats, resulting in the least impact of all alternatives.</li></ul>
<b>Noise</b> <ul style="list-style-type: none"><li>Groundborne Noise</li><li>Airborne Noise</li><li>Vibration</li><li>Site-specific Unavoidable Impacts</li></ul>	<ul style="list-style-type: none"><li>121</li><li>119</li><li>162</li><li>None</li></ul>	<ul style="list-style-type: none"><li>77</li><li>216</li><li>156</li><li>None</li></ul>	<ul style="list-style-type: none"><li>No effect.</li><li>No effect.</li><li>No effect.</li><li>None</li></ul>	<ul style="list-style-type: none"><li>Not Applicable</li><li>118</li><li>Not Applicable</li><li>None</li></ul>	<ul style="list-style-type: none"><li>Not Applicable.</li><li>312</li><li>136</li><li>None</li></ul>	<ul style="list-style-type: none"><li>77</li><li>255</li><li>205</li><li>None</li></ul>	<ul style="list-style-type: none"><li>77</li><li>228</li><li>180</li><li>None</li></ul>	<ul style="list-style-type: none"><li>103</li><li>124</li><li>195</li><li>None</li></ul>	<ul style="list-style-type: none"><li>99</li><li>101</li><li>196</li><li>None</li></ul>	<ul style="list-style-type: none"><li>113</li><li>84</li><li>199</li><li>Seven to eight homes in Millbrae would experience groundborne noise, and 11 to 12 homes in Millbrae would experience groundborne vibration levels in excess of appropriate criteria.</li></ul>
<b>Air Quality</b> <ul style="list-style-type: none"><li>Reductions in emissions from 1993 No Build by 1998 (000 tons/yr):<ul style="list-style-type: none"><li>Carbon Monoxide</li><li>Nitrogen Oxides</li><li>Reactive Organic Gases</li><li>PM10</li></ul></li><li>Highest Modeled 8-Hr. CO Concentration in 1998</li></ul>	<ul style="list-style-type: none"><li>318.9</li><li>13.8</li><li>20.6</li><li>1.5</li><li>7.0</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>7.0</li></ul>	<ul style="list-style-type: none"><li>Worsens regional air quality compared to all BART build alternatives.</li><li>7.5</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>8.4</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>6.3</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>7.3</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>7.3</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>Similar to Alternative V</li><li>7.1</li></ul>	<ul style="list-style-type: none"><li>Similar to proposed project.</li><li>6.5</li></ul>	







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**Table S-5**  
**Generalized Construction Impacts of the BART Build Alternatives**

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**Transportation**

- Traffic detours and congestion resulting from street closures and lane restrictions and from construction-related truck trips.
- Reduction in access between the Fifth Addition neighborhood and the shopping centers on the west side of the SPTCo/CalTrain mainline.
- Delays to CalTrain service.
- Neighborhood disruption and diminished access to local businesses.
- Safety hazards for pedestrians and bicyclists.

**Visual Quality**

- Disruption of cemetery services.
- Loss of mature trees.
- Placement of construction activities close to residents, thereby creating a sense of encroachment and adversely altering the visual setting.
- Visual alteration of the open space area between Highway 101 and the SPTCo/CalTrain mainline, opposite the SFIA terminals.

**Cultural Resources**

- Possible disturbance to an archaeological resource known to have existed along Colma Creek.
- Indirect effects such as noise and visual alteration to the immediate vicinity around potentially historic properties.

**Community Services**

- Delays in emergency services response because of street closures and lane restrictions.
- Utility relocation and possible, temporary interruption of service.

**Geology**

- Slope instability and settlement during excavation.

**Biological Resources**

- Disturbance to surface and shallow subsurface biotic resources including wetlands.
- Increased erosion and sedimentation with possible adverse effects on water quality and aquatic habitats.

**Hydrology**

- Increased erosion and sedimentation.
- Interference with drainage patterns.

**Noise**

- Increased localized noise and vibration.

**Air Quality**

- Increased localized air emissions, including dust.

**Public Health**

- Discovery of hazardous materials that could present health and safety concerns for construction workers.

**Energy**

- Substantial energy requirements to construct the facilities.

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Source: BART; Ogden.

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**Table S-6**  
**Generalized Cumulative Effects of the BART Build Alternative**

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#### **Transportation**

- Significant traffic increases during peak A.M. and P.M. hours on freeway segments between Millbrae and Third Avenues.
- Significant traffic increases during peak A.M. and/or P.M. hours on the freeway segment between SFIA and Millbrae under all build alternatives except Alternative VI.
- Significant increases in congestion at the following intersections: Chestnut and Grand Avenues (under Alternative V), Junipero Serra and Westborough Boulevards (under the Base Case), and El Camino Real and Sneath Lane (under the Base Case and Alternative VI).
- Beneficial effect of a reduction in parking demand at Daly City and Colma BART stations under all build alternatives.

#### **Land Use**

- Increased activity levels in South San Francisco, San Bruno, and Millbrae neighborhoods creating traffic, noise, and safety concerns.
- Displacement effects leading to disruption of local social patterns (i.e., shopping, circulation, and neighborhood activities) in the project corridor.
- Beneficial effect of long-term job creation by local transit agencies, the SFIA, and local businesses.

#### **Visual Quality**

- Significant alteration of scenic views in South San Francisco, most notably those of San Bruno Mountain.

#### **Cultural Resources**

- Disturbance to or loss of significant cultural resources in San Mateo County.

#### **Community Services**

- Potential increase in demand for community services in local jurisdictions in the project study area.

#### **Geology, Soils, and Seismicity**

- Increase in the population exposed to seismic hazards due to development at the SFIA and in the study area.

#### **Biological Resources**

- Wetland habitat loss throughout the Bay Area due to development.

#### **Hydrology and Water Quality**

- Potential increase in nonpoint source pollution and flooding along Colma Creek in South San Francisco under all BART build alternatives.

#### **Noise and Vibration**

- Increase in ambient noise levels under all build alternatives as a result of increased transit service and background traffic.

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**Table S-6 (continued)**  
**Generalized Cumulative Effects of the BART Build Alternative**

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**Air Quality**

- Beneficial effect of reduction in regional emissions of carbon monoxide, nitrous oxides, reactive organic gases, and particulate matter under all build alternatives due to less vehicle miles traveled.

**Public Health and Safety**

- Risk of minimal public exposure to BART-related hazardous materials and EMF.

**Energy**

- Beneficial effect of net decrease in regional energy requirements due to increased public transit ridership.

**Construction**

- Traffic delays on Highway 101, local traffic congestion, and roadway closures during construction.
- Construction-related increase in noise, dust, construction traffic, movement of construction equipment, and visual disruption in South San Francisco and at the SFIA.
- Potentially significant increase in demand for local police and fire services in South San Francisco during construction periods.
- Potentially significant increase in demand for SFIA police and fire services during construction periods.
- Potential construction-related settlement and erosion impacts in South San Francisco and/or on the SFIA property east of Highway 101.
- Loss of wetlands and sensitive species habitats on and adjacent to the SFIA property west of Highway 101 as a result of construction impacts.
- Potential construction-related noise and vibration effects for residents in South San Francisco.
- Construction would lead to increase in airborne particulate matter levels in South San Francisco and at the SFIA.
- Potential exposure of the public and/or construction workers to hazardous materials at the SFIA during construction periods.
- Beneficial effect of expanded regional spending during construction periods.
- Increased construction-related energy demands under all build alternatives.

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Source: BART; Ogden.

## Are There Unresolved Issues?

The following decisions must be made prior to the implementation of the BART-San Francisco Airport Extension:

■ **Selection of a Project Alignment.** The BART and SamTrans Boards of Directors will either reaffirm the Locally Preferred Alternative (i.e., the proposed project) or they could select one of the other routes evaluated in the DEIR/SDEIS. In addition, there are several vertical alignment options that consider subway, retained cut, at-grade, and aerial configurations for selected portions of the route. With the appropriate findings and procedures, the BART and SamTrans Board may select a preferred alternative that combines various options.

■ **Determination of Station Locations.** In South San Francisco, San Bruno, and Millbrae, there are optional station locations. In the City of South San Francisco, the choice between the Hickey or the Chestnut Station is linked with the selection of either a subway (as proposed by all BART build alternatives, except the Base Case) or a retained cut (as proposed under the Base Case) configuration. In San Bruno, the choice of station locations depends on the route selected and on localized environmental impacts, and includes sites at Tanforan, I-380/San Bruno Avenue, and Downtown San Bruno (specific location options by alternative are identified in Table S-3 and Figure S-2). Similarly, in Millbrae, the choice of stations depends on the route selected and includes sites at Center Street (as proposed under Alternatives IV and V) and Millbrae Avenue (as proposed under Alternative VI).

At the SFIA, three different station locations have been examined: the long-term parking area, the proposed Ground Transportation Center, and the proposed International Terminal. The choice of station depends on the alternative selected.

■ **Funding Contributions.** When the Locally Preferred Alternative was selected in June 1992, certain segments of the alignment were suggested by the affected communities for subway construction, as opposed to retained cut, at-grade or aerial configuration. These additional subway segments are to be paid for through local financial contributions, and the funds were to be secured within 12 months of the adoption of the resolution identifying the Locally Preferred Alternative. Although this date has passed, local jurisdictions are still exploring options for raising their required financial contributions.

The issue of available federal funds must be resolved, as well as the overall BART/SamTrans proposed financing plan. The BART-San Francisco Airport Extension is authorized under the Intermodal Surface Transportation Act of 1991 (ISTEA) to share \$568.5 million in new rail projects with the BART Colma Extension and a light rail project in Santa Clara County. Of this amount, \$301 million is allocated for the BART-San Francisco Airport Extension through fiscal year 1997. An additional \$289.7 million is needed to bring the total funding level for the project to \$590.7 million, or 75 percent of the least-cost alternative (Base Case Alternative), as estimated in the AA/DEIS/DEIR; this is the funding level that has been authorized, but the monies have not been committed. The cost estimates have been refined upwards since the AA/DEIS/DEIR and are presented in Table S-3. Assuming commitment of the additional \$289.7 million, a capital cost shortfall would still exist. Additional federal and local contributions would need to be secured to construct the proposed extension.

■ **Selection and Adoption of Appropriate Mitigation Measures.** Mitigation measures have been developed to reduce and/or eliminate significant impacts identified in the DEIR/SDEIS. The BART and SamTrans Boards must adopt measures to be incorporated into the alternative selected for implementation, in order to eliminate or reduce impacts.

## Next Steps

### How Do I Comment on the DEIR/SDEIS?

The public is invited to review the DEIR/SDEIS and to submit written comments to:

Molly Murphy  
Extension Planning - 1KB4  
San Francisco Bay Area Rapid Transit District  
P.O. Box 12688  
Oakland, CA 94604-2688

Robert Hom, Program Director  
Federal Transit Administration,  
Region IX  
201 Mission Street  
San Francisco, CA 94105

The purpose of the public review period is to solicit comments on the merits of the alternatives, the overall accuracy and completeness of the analyses, preferences for particular alternatives, and the sufficiency of the document in identifying and analyzing possible impacts of alternatives or mitigation measures to better avoid or reduce significant effects. Written comments may be submitted anytime during the 60-day public review period that begins with the release of the DEIR/SDEIS.

Additionally, the public is invited to participate at the upcoming public hearing that will be held to receive comments on the DEIR/SDEIS. The hearing will be announced in local newspapers and all individuals on the project mailing list will be notified. To get on the mailing list or request further project information, call the Project Hotline at (415) 398-2002.

### Where Can Others Get Copies of the DEIR/SDEIS?

Copies of the DEIR/SDEIS have been distributed to each of the local jurisdictions (typically, the Planning Department), to public libraries along the project corridor, and to the BART and MTC libraries in Oakland. Copies can also be obtained by calling the Project Hotline.

### What Will Happen at the Public Hearing?

As noted above, BART and SamTrans will hold a public hearing to describe the project alternatives and potential impacts, and to solicit comments from the public. These comments will be recorded by court reporters. The Boards will consider these comments during their deliberations on the selection of the Locally Preferred Alternative. BART, SamTrans, and their consultants will subsequently prepare written responses to be included in a FEIS/FEIR. The responses will address comments concerning environmental issues.

### When Will a Decision Be Made to Build the BART–San Francisco Airport Extension?

Upon completion of the public hearing, BART and SamTrans will select a Locally Preferred Alternative. As noted earlier, the selection could be the existing proposed project as defined in May 1993, it could be one of the other alternatives evaluated, or it could be some hybrid based on a combination of different vertical alignments and station locations. BART and SamTrans will then direct preparation of a FEIS/FEIR to respond to comments on the DEIR/SDEIS. The FEIS/FEIR will also contain additional engineering and environmental analyses of the Locally Preferred Alternative. Only after review of the FEIS/FEIR by BART, SamTrans, and FTA and consideration of financial and engineering feasibility, local support, and cost-effectiveness will a decision be made on whether to extend BART to the SFA.

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Table S-7  
Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
Transit Ridership										
• Increase in Daily Regional Ridership (passengers) compared to No Build in 1998.	• 35,800	• Same as proposed project	• N/A	• 2,100	• 36,100	• 36,100	• 36,500	• 35,700	• 35,900	• 38,400
• Daily BART Patronage in San Mateo County in 1998 (entrances and exits).	• 80,700	• Same as proposed project	• 45,500	• 41,900	• 81,000	• 82,800	• 84,100	• 81,100	• 80,900	• 88,300
Traffic										
• Freeways (compared to 1993 No Build conditions).	<ul style="list-style-type: none"><li>Reduces regional congestion.</li><li><b><u>Reduces Highway 101 level of service between SFIA and Millbrae and between Millbrae and Broadway and between Poplar and Third to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 level of service between Broadway and Poplar to unacceptable levels in 2010.</u></b></li><li><b><u>Exacerhates already unacceptable level of service on Highway 101 between Broadway and Poplar Avenue in 1998.</u></b></li><li>Reduces Highway 101 weaving section between SFIA and Millbrae Avenue in 1998 and 2010.</li><li><b><u>Reduces Highway 101 weaving section between San Bruno Avenue and SFIA to unacceptable levels in 1998 and 2010.</u></b></li></ul>	• Same as proposed project.	<ul style="list-style-type: none"><li><b><u>Reduces Highway 101 level of service between Millbrae and Broadway and between Poplar and Third Avenues to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 level of service between SFIA and Millbrae and between Broadway and Poplar Avenue to unacceptable levels in 2010.</u></b></li><li><b><u>Reduces Highway 101 weaving section between San Bruno Avenue and SFIA and between SFIA and Millbrae Avenue to unacceptable levels in 1998 and 2010.</u></b></li></ul>	<ul style="list-style-type: none"><li>Reduces regional congestion.</li><li><b><u>Reduces Highway 101 level of service between Millbrae and Broadway and between Poplar and Third Avenue to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 level of service between Broadway and Poplar to unacceptable levels in 2010.</u></b></li><li>Reduces Highway 101 weaving section between SFIA and Millbrae Avenue to unacceptable levels in 1998 and 2010.</li><li><b><u>Reduces Highway 101 weaving section between San Bruno and SFIA to unacceptable levels in 2010.</u></b></li></ul>	<ul style="list-style-type: none"><li>Reduces regional congestion.</li><li><b><u>Reduces Highway 101 level of service between SFIA and Millbrae and between Millbrae and Broadway and between Poplar and Third to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 level of service between Broadway and Poplar to unacceptable levels in 2010.</u></b></li><li><b><u>Exacerbrates already unacceptable level of service on Highway 101 between Broadway and Poplar Avenue in 1998.</u></b></li><li><b><u>Reduces Highway 101 weaving section between San Bruno and SFIA to unacceptable levels in 1998 and 2010.</u></b></li><li>Reduces Highway 101 weaving section between SFIA and Millbrae Avenue in 1998 and 2010.</li></ul>	<ul style="list-style-type: none"><li>Same as Alternative III <i>except</i></li><li>Improves Highway 101 weaving operations between San Bruno and SFIA in 1998.</li><li><b><u>Reduces Highway weaving section between San Bruno and SFIA to unacceptable levels in 2010.</u></b></li></ul>	<ul style="list-style-type: none"><li>Reduces regional congestion.</li><li><b><u>Reduces Highway 101 level of service between SFIA and Millbrae and between Millbrae and Broadway and between Poplar and Third Avenue and to unacceptable levels in 1998 and 2010.</u></b></li><li>Reduces Highway 101 weaving section between SFIA and Millbrae Avenue in 1998 and 2010.</li><li>Improves Highway 101 weaving operations between San Bruno and SFIA in 1998.</li><li><b><u>Reduces Highway weaving section between San Bruno and SFIA to unacceptable levels in 2010.</u></b></li></ul>	<ul style="list-style-type: none"><li>Reduces regional congestion.</li><li><b><u>Reduces Highway 101 level of service between SFIA and Millbrae and between Millbrae and Broadway to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 level of service between Poplar and Third Avenue and to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 weaving section between Broadway and Poplar and between Poplar and Third to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 weaving section between San Bruno Avenue and SFIA in 1998 and 2010.</u></b></li><li><b><u>Exacerbrates already unacceptable level of service on Highway 101 between Broadway and Poplar and between Poplar and Third Avenue in 1998.</u></b></li><li>Reduces Highway 101 weaving section between SFIA and Millbrae Avenue in 1998 and 2010.</li></ul>	<ul style="list-style-type: none"><li>Same as Design Option V-A.</li><li>Reduces regional congestion.</li><li><b><u>Reduces Highway 101 level of service between Millbrae and Broadway and between Poplar and Third Avenue to unacceptable levels in 1998 and 2010.</u></b></li><li><b><u>Reduces Highway 101 level of service between SFIA and Millbrae to unacceptable levels in 2010.</u></b></li><li>Reduces Highway 101 weaving operations between SFIA and Millbrae in 2010.</li></ul>	

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Table S-7  
Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Traffic (continued)</b>										
<ul style="list-style-type: none"> <li>Local Intersections (Compared to 1993 No Build conditions).</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at Hickey extension/station exit in PM, El Camino Real/ Sneath in PM, and Chestnut/Grand in PM.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Significant deterioration in LOS at Chestnut/Grand, El Camino Real/ Westborough, El Camino Real/Sneath, and California/Broadway.</u></b></li> <li><b><u>Exacerbates already unacceptable LOS at Junipero Serra/ Westborough, El Camino Real/Noor, and 2nd/San Bruno.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>Generally same or improved LOS at local intersections.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at El Camino Real/Sneath.</li> <li><b><u>Exacerbates already unacceptable levels of service at Junipero Serra /Westborough.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at the Hickey extension/station exit in PM, Chestnut/ Grand in PM and San Mateo/ Huntington and San Anselmo/Center in PM.</li> <li>If Tanforan Station option were selected, reduced LOS at El Camino Real/ Sneath.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative IV <i>plus</i></li> <li>For the Downtown San Bruno Station option, impacts would be the same as those identified for the I-380/San Bruno Station except that San Mateo/Angus would also be significantly affected.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at San Mateo/ Huntington in PM, San Mateo/ Lumber Yard Kiss-and-Ride exit in PM, the Hickey extension/ station exit and Chestnut/Grand, in PM.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A.</li> </ul>	<ul style="list-style-type: none"> <li>Significant deterioration in LOS at Hickey extension/ station exit and Chestnut/Grand in PM; El Camino Real/Sneath, <b><u>Huntington/Tanforan Driveway North in PM, and El Camino Real/Millbrae in AM.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>Parking in 2010</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in parking demand of Daly City and Colma Stations.</li> <li>Demand exceeds design at Daly City and Tanforan Stations.</li> <li>Spillover parking into neighborhoods at Hickey and into Tanforan Shopping Center.</li> <li>SFIA air passengers may park at the Airport Intermodal Station to access ALRS.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Demand exceeds design at Daly City and Colma Stations.</li> </ul>	<ul style="list-style-type: none"> <li>Same as No Build Alternative.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in parking demand at Daly City and Colma Stations.</li> <li>Demand exceeds design at Daly City Station.</li> <li>Spillover parking into neighborhoods at Chestnut Station, the Airport Intermodal Station, and into Tanforan Shopping Center.</li> <li>SFIA air passengers may park at the Airport Intermodal Station to access ALRS.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in parking demand at Daly City and Colma Stations.</li> <li>Demand exceeds design at Daly City Station.</li> <li>Spillover parking into neighborhoods at Hickey, I-380/ San Bruno, and Millbrae Intermodal Stations, and into Tanforan Shopping Center.</li> <li>SFIA air passengers may park at the Millbrae Intermodal Station to access ALRS.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in parking demand at Daly City and Colma Stations.</li> <li>Demand exceeds design at Daly City and Millbrae Intermodal Stations.</li> <li>Spillover parking same as Alternative IV.</li> <li>SFIA air passengers may park at the Millbrae Intermodal Station to access ALRS.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in parking demand at Daly City and Colma Stations.</li> <li>Demand exceeds design at Daly City Station.</li> <li>Spillover parking into neighborhoods at Hickey, I-380/ San Bruno or Downtown San Bruno stations.</li> <li>SFIA air passengers may park at I-380/ San Bruno or Downtown San Bruno Stations to access ALRS.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A.</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in parking demand at Daly City and Colma Stations.</li> <li>Same as Design Option V-A, but additional spillover parking at Tanforan and Millbrae Avenue Stations.</li> </ul>
<b>Land Use</b>										
<ul style="list-style-type: none"> <li>General Plan Consistency</li> </ul>	<ul style="list-style-type: none"> <li>Generally consistent with San Bruno Plan.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with San Bruno Plan.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with Colma, South San Francisco, and San Bruno Plans.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with San Bruno and Millbrae Plans.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with San Bruno and Millbrae Plans.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with San Bruno Plan.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with San Bruno Plan.</li> </ul>	<ul style="list-style-type: none"> <li>Generally consistent with San Bruno Plan but conflicts with Millbrae Plan.</li> </ul>
<ul style="list-style-type: none"> <li>Displacement</li> </ul>	<ul style="list-style-type: none"> <li><b><u>120 residents; up to 130 employees.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Same as proposed project.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>No displacement.</li> </ul>	<ul style="list-style-type: none"> <li>No or little displacement.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>No residential displacement; up to 40 employees.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Up to 560 residents; up to 490 employees.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Up to 600 residents; up to 605 employees.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Up to 650 residents; up to 565 employees.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Same as Design Option V-A.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Up to 525 residents; up to 60 employees.</u></b></li> </ul>

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<b>Land Use (continued)</b>										
<ul style="list-style-type: none"> <li>Community Cohesion/Local Economic Activity in Station Vicinity</li> </ul>	<ul style="list-style-type: none"> <li>Minimally affects real estate or economic development <i>except</i></li> <li>At Hickey where it supports local development objectives.</li> <li><b><u>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</u></b></li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>Minimally affects real estate at the CalTrain/Airport Light Rail Station.</li> </ul>	<ul style="list-style-type: none"> <li>Conflicts with residential development objectives in South San Francisco.</li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> <li>Chestnut Station displaces 18-stall golf driving range and bar/cafe.</li> <li>Displaces businesses around Chestnut Station.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</u></b></li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> <li><b><u>Loss of municipal and school tax revenues in San Bruno with I-380 Station option.</u></b></li> <li><b><u>Economic / isolation impacts in Millbrae.</u></b></li> <li><b><u>Loss of the Millbrae Nursery School and Marino Vista Park.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</u></b></li> <li>Displacement of Tanforan Shopping Center overflow parking for Tanforan Station may affect economic development.</li> <li><b><u>Loss of municipal and school tax revenues in San Bruno, with either I-380 or Downtown San Bruno Station.</u></b></li> <li><b><u>Disrupts the San Bruno Central Business District.</u></b></li> <li><b><u>I-380/ San Bruno Station affects Belle Air and San Bruno Park neighborhoods.</u></b></li> <li><b><u>Loss of Posy Park with Downtown San Bruno Station.</u></b></li> <li><b><u>Economic / isolation effects in Millbrae.</u></b></li> <li><b><u>Loss of the Millbrae Nursery School and Marino Vista Park.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Same as Alternative V except</u></b></li> <li><b><u>Impact in San Bruno would be greater due to larger station; ALRS would further fragment Belle Air neighborhood plus</u></b></li> <li>There would be no impacts at the Tanforan or Millbrae Intermodal Stations.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Same as Design Option V-A</u></b></li> </ul>	<ul style="list-style-type: none"> <li><b><u>Displacement at Hickey Station disrupts local social patterns of shopping, circulation, and neighborhood activities.</u></b></li> <li><b><u>Loss of municipal and school tax revenues in San Bruno and Millbrae;</u></b></li> <li><b><u>Requires relocation of Millbrae Gardens.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>Community Cohesion/Social Considerations (Not in Station Vicinity but along Alignment)</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Fragments Fifth Addition.</u></b></li> <li><b><u>Impacts Belle Air neighborhood.</u></b></li> <li>Reduces supply of low-cost housing in San Bruno and San Mateo County.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Fragments Fifth Addition more than proposed project because of aerial configuration.</u></b></li> <li><b><u>Impacts Belle Air Elementary School and 7th and Walnut Park.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>No neighborhood impacts.</li> </ul>	<ul style="list-style-type: none"> <li>No BART-related neighborhood impacts.</li> <li>Increased activity along CalTrain right-of-way would impact South San Francisco, San Bruno, and Millbrae, and along the Hickey Boulevard extension in South San Francisco.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Introduces land use incompatibility with cemeteries in Colma.</u></b></li> <li><b><u>Introduces physical barrier in South San Francisco and San Bruno.</u></b></li> <li>Displaces approximately 400 spaces of municipal, private, and CalTrain parking.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Introduces physical barrier in Belle Air neighborhood.</u></b></li> <li><b><u>Impacts Belle Air neighborhood in San Bruno and Marino Vista and North Millbrae neighborhoods in Millbrae.</u></b></li> <li>Reduces supply of low-cost housing in San Bruno and San Mateo County.</li> </ul>	<ul style="list-style-type: none"> <li><b><u>Impacts Belle Air neighborhood in San Bruno and Marino Vista and North Millbrae neighborhoods in Millbrae.</u></b></li> <li>Reduces supply of low-cost housing in San Bruno and San Mateo County.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>
<ul style="list-style-type: none"> <li>Regional Economic Activity</li> </ul>	<ul style="list-style-type: none"> <li>Creates 675 to 1,125 direct/indirect jobs.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Creates few jobs.</li> </ul>	<ul style="list-style-type: none"> <li>Creates fewer jobs than proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>

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Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
Visual Quality										
Built Environment	<ul style="list-style-type: none"> <li>• <b><u>ALRS and Highway 101 connections introduce scale incompatibilities in Millbrae.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• <b><u>Scale incompatibilities would occur in Fifth Addition neighborhood in San Bruno.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• No effect.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• <b><u>Aerial BART alignment introduces scale incompatibilities in San Bruno.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• <b><u>Aerial BART alignment and station options introduce scale incompatibilities in the Belle Air neighborhood of San Bruno.</u></b></li> <li>• <b><u>Millbrae Intermodal Station, ALRS, and Highway 101 connections introduce scale incompatibilities in Marino Vista and North Millbrae neighborhoods in Millbrae.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as Alternative IV plus</u></b></li> <li>• <b><u>BART parking structure introduces scale incompatibilities with homes on east side of 3rd Avenue in San Bruno.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as Alternative V except</u></b></li> <li>• No effects in Millbrae.</li> <li>• <b><u>BART parking structure introduces scale incompatibilities with homes on east side of 3rd Avenue in San Bruno.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as Design Option V-A.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>BART facilities introduce scale incompatibilities in Millbrae.</u></b></li> <li>• <b><u>Tanforan Station would introduce scale incompatibilities in San Bruno.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• Scenic Resources and Significant Views</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Temporary removal of mature trees within Colma and South San Francisco.</u></b></li> <li>• Storage tracks and car wash affect views and scenic resources in Millbrae.</li> <li>• <b><u>ALRS and Highway 101 ramps obstruct views of San Bruno Mountain and diminish appeal of SFIA open space area west of Highway 101.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• No effect.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>ALRS and Highway 101 ramps obstruct view of San Bruno Mountain from Millbrae and diminish appeal of SFIA open space area west of Highway 101.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project except</u></b></li> <li>• <b><u>Permanent removal of trees in Colma cemeteries.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• <b><u>Aerial configuration and Millbrae Intermodal Station significantly affects view of San Bruno Mountain.</u></b></li> <li>• No effect from storage tracks or car wash.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project but greater effect on views of San Bruno Mountain because of Millbrae Intermodal Station.</u></b></li> <li>• No effect from storage tracks or car wash.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project except</u></b></li> <li>• No effects in Millbrae.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as Design Option V-A.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Temporary removal of mature trees within Colma and South San Francisco.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• Sensitive Receptors</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Daly City Shop/Yard sound wall creates perception of encroachment for Meadowbrook Trailer Park residents.</u></b></li> <li>• Tanforan Station facilities and alignment may create a sense of encroachment for San Bruno residents.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• <b><u>I-380 aerial segment creates encroachment for homes in San Bruno's Fifth Addition neighborhood.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• No effect.</li> </ul>	<ul style="list-style-type: none"> <li>• No effect.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• <b><u>Retained cut effects cemeteries in Colma and residents in South San Francisco.</u></b></li> <li>• The Chestnut Station parking structure would introduce light and glare into South San Francisco.</li> <li>• <b><u>Ancillary facilities, a retaining wall, and fencing create a sense of encroachment in South San Francisco.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project plus</u></b></li> <li>• Encroachment effects by San Bruno Station options and Millbrae Intermodal Station.</li> <li>• The I-380/San Bruno Station would introduce light and glare in San Bruno.</li> <li>• BART storage tailtrack would extend to within 60 feet of sensitive receptors in Millbrae.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Alternative IV <i>except</i></li> <li>• Light and glare effects at Downtown San Bruno Station instead of I-380 Station.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Alternative V <i>except</i></li> <li>• No effects in Millbrae.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Design Option V-A.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Same as proposed project except</u></b></li> <li>• Light and glare effects in Bayside Manor neighborhood in Millbrae.</li> </ul>

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• Streetscape	• Hickey Station potentially enhances streetscape in South San Francisco.	• Same as proposed project.	• No effect.	• No effect.	• <b><u>Alters streetscape in San Bruno in vicinity of aerial segment and station.</u></b>	• Same as proposed project <i>plus</i> • <b><u>Same as the Base Case Alternative.</u></b>	• Same as proposed project <i>plus</i> • Alters streetscape in San Bruno with I-380/San Bruno and Downtown San Bruno Station options.	• Same as Alternative V.	• Same as Design Option V.	• Same as proposed project <i>plus</i> • Alters streetscape in San Bruno at Tanforan Station.
Cultural Resources										
• Direct Physical Disturbance	• Potential direct effects to arched, cut-stone bridge in South San Francisco.	• Same as proposed project.	• No effect.	• No effect.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project <i>plus</i> • Relocation of the Millbrae Train Station, a structure on the National Register of Historic Places.
• Diminution of Historic Setting	• Diminution of setting in cemeteries in Colma. • Diminution of setting at Salem Memorial Park Office in Colma.	• Same as proposed project.	• No effect.	• No effect.	• Same as proposed project <i>plus</i> • Indirect effects on cemetery properties the Salem Memorial Park office, and the American Legion Post.	• Same as proposed project.	• Same as proposed project <i>plus</i> • Indirect effects to potentially historic downtown San Bruno properties.	• Same as Alternative V.	• Same as Alternative V.	• Same as proposed project.
Community Services										
	• <b><u>Increases demand for local emergency response.</u></b> • Minimal increase in water demand and wastewater treatment requirements.	• Same as proposed project.	• Emergency response vehicles would still be delayed by train passbys in San Bruno and Millbrae.	• Negligible change in service demands.	• Same as proposed project.	• Same as proposed project with slightly greater demand due to one additional station.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
Geology										
• Seismic Effects	• Exposes BART facilities to potentially strong, seismically-induced groundshaking and lateral pressures. • Potential for seismically-induced strain on I-380 tunnel lining.	• Same as proposed project excluding seismic strain.	• No effect.	• Exposes roadway and transit improvements to potentially strong, seismically-induced groundshaking.	• Same as proposed project excluding seismic strain on tunnel.	• Exposes BART facilities to potentially strong, seismically-induced groundshaking and lateral pressures <i>plus</i> • Potential for seismically-induced strain on tunnel under Highway 101. • Potentially strong, seismically-induced groundshaking on facilities proposed on the SFIA property east of Highway 101.	• Same as proposed project excluding seismic strain on tunnel.	• Same as Alternative IV.	• Same as proposed project.	• Same as Alternative IV. <i>plus</i> • Potential for seismically-induced strain with Tunnel Construction Option.

Note: Bold and underlined impacts indicate significant and unavoidable impacts.



Table S-7  
Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
• Liquefaction/ Bay Mud Effects	• Exposes BART facilities, ALRS, and highway on off-ramps overlying San Francisco Bay Mud to seismically-induced, localized liquefaction and settlement.	• Same as proposed project.	• No effect.	• Exposes roadway and transit improvements to seismically-induced, localized liquefaction and settlement.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project excluding effects on highway on-/off- ramps.	• Same as Design Option V-A.	• Same as Design Option V-A.
• Hydrostatic and Settlement Effects	• Exposes BART facilities below groundwater level to seismically-induced upward force. • Facilities involving spread footings would be susceptible to long- term ground settlement.	• Same as proposed project.	• No effect.	• Spread footings susceptible to long-term settlement.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Corrosive Subsurface Soils	• Potentially exposes underground structures to corrosive subsurface soils.	• Same as proposed project.	• No effect.	• No effect.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
<b>Biological Resources</b>										
• Total Wetland Loss (approximate acreage of wetlands and creek channels)	• 2.42	• 2.62	• No effect.	• 1.09	• 1.82	• 1.80	• 1.26	• 1.27 to 1.28	• 1.12	• 0.87
• Loss of Wetland Habitats inhabited by the San Francisco Garter Snake, California Red- legged frog, and the San Francisco Forktail Damselfly.	• 1.52 acres of wetland habitats and obstruction of movement corridors within sensitive wildlife species habitat.	• 1.54 acres of wetland habitats.	• Results in continued decline of San Francisco Garter Snake and Red-legged frog habitat.	• 0.93 acres of wetland habitats.	• 1.16 acres of wetland habitat.	• 0.91 acres of wetland habitat.	• 0.37 acres of wetland habitat.	• 0.40 to 0.41 acres of wetland habitat.	• 0.25 acres of wetland habitat.	• No displacement of wetlands habitats, resulting in the least impact of all alternatives.
• Reduction in aquatic habitat value.	• Additional drainage outfalls into existing waterways could convey runoff and pollutants into aquatic habitats.	• Same as proposed project.	No effect.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.

Note: Bold and underlined impacts indicate significant and unavoidable impacts.



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Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway/Aerial to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Hydrology and Water Quality</b>										
• Flood Hazard	<ul style="list-style-type: none"> <li>Encroaches into the 100-year floodplain in Colma, South San Francisco, and on west of Bayshore parcel, and may increase risk of flooding in adjacent areas.</li> <li>Reconstruction of a stretch of Colma Creek in South San Francisco would improve the discharge of stormwaters.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project <i>except</i></li> <li>Retained cut segment in west of Bayshore parcel would disrupt drainage and increase flood hazards in this area.</li> </ul>	<ul style="list-style-type: none"> <li>No flood control improvements to Colma Creek would be made.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project <i>except</i></li> <li>No encroachment in Colma and San Bruno.</li> </ul>	<ul style="list-style-type: none"> <li>Placement of a station in the 100-year floodplain of Colma Creek at Chestnut Boulevard, and encroaches into the 100-year floodplain on west of Bayshore parcel.</li> </ul>	<ul style="list-style-type: none"> <li>Similar to proposed project but I-380/San Bruno Station option would encroach upon flood prone area in San Bruno.</li> </ul>	<ul style="list-style-type: none"> <li>Similar to Alternative IV, but less encroachment on the west of Bayshore parcel.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V <i>except</i></li> <li>Less encroachment on the west of Bayshore parcel.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A <i>except</i></li> <li>No encroachment on west of Bayshore parcel.</li> </ul>	<ul style="list-style-type: none"> <li>Similar to Alternative V-A (subway) <i>except</i></li> <li>No encroachment on San Bruno flood prone areas.</li> </ul>
• Soil Erosion	<ul style="list-style-type: none"> <li>Results in significant erosion at the outlets of new and modified drainage ways.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>Results in less erosion than the proposed project; avoids Cupid Row Canal.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as the proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Results in less erosion than the proposed project because it avoids San Felipe-South Lomita Canal and existing culverts would be unaffected.</li> </ul>
• Water Quality	<ul style="list-style-type: none"> <li>Results in increased runoff volumes (50 cfs) and greater pollutant loadings.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>Results in less runoff volumes (32 cfs) and pollutant loading than the proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Results in less runoff volumes (34-39 cfs) and pollutant loading than the proposed project due to less ground disturbance.</li> </ul>	<ul style="list-style-type: none"> <li>Results in less runoff volumes (34-44 cfs) and pollutant loading than the proposed project because it proposes one less station.</li> </ul>	<ul style="list-style-type: none"> <li>Results in less runoff volumes (18-23 cfs) and pollutant loading than the proposed project because it proposes one less station.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Design Option V-A.</li> </ul>	<ul style="list-style-type: none"> <li>Results in potentially the least runoff volume (18 cfs) of all BART build alternatives because of minimal increases in impermeable surfaces.</li> </ul>
• Groundwater	<ul style="list-style-type: none"> <li>Displaces one cemetery well in Colma.</li> <li>Potentially contaminates underlying aquifer.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>
<b>Noise (maximum estimate of sensitive receptors)</b>										
• Groundborne Noise	• 121	• 77	• No effect.	• Not Applicable	• Not Applicable.	• 77	• 77	• 103	• 99	• 113
• Airborne Noise	• 119	• 216	• No effect.	• 118	• 312	• 255	• 228	• 124	• 101	• 84
• Vibration	• 162	• 156	• No effect.	• Not Applicable	• 136	• 205	• 180	• 195	• 196	• 199
• Site-specific Unavoidable Impacts	• None	• None	• None	• None	• None	• None	• None	• None	• None	<ul style="list-style-type: none"> <li><b><u>Seven to eight homes in Millbrae would experience groundborne noise levels in excess of appropriate criteria.</u></b></li> </ul>

Note: Bold and underlined impacts indicate significant and unavoidable impacts.





Table S-7  
Comparison of Key Impacts

Issue	Proposed Project Locally Preferred Alternative	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Air Quality</b>										
• Reductions in emissions from 1993 No Build by 1998 (000 tons/yr):										
Carbon Monoxide	• 318.9	• Similar to proposed project.	• Worsens regional air quality compared to all BART build alternatives.	• Similar to proposed project.	• Similar to proposed project.	• Similar to proposed project.	• Similar to proposed project.	• Similar to proposed project.	• Similar to proposed project.	• Similar to proposed project.
Nitrogen Oxides	• 13.8									
Reactive Organic Gases	• 20.6									
PM <sub>10</sub>	• 1.5									
• Highest Modeled 8-Hr. CO Concentration in 1998	• 7.0	• 7.0	• 7.5	• 8.4	• 6.3	• 7.3	• 7.3	• Similar to Alternative V	• 7.1	• 6.5
• Conformity Assessment	• In conformance with the MTC resolution and Clean Air Act.	• Same as proposed project.	• No effect.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
<b>Public Health and Safety</b>										
• Exposure to Hazardous Materials	• Introduces minimal volumes of hazardous materials for maintenance of facilities and equipment. • Low likelihood of exposure to known nearby contaminated sites.	• Same as proposed project.	• No effect.	• No effect.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Exposure to Electromagnetic Fields (EMF)	• Minimal long-term exposure because of distance to and shielding of EMF sources from sensitive receptors.	• Same as proposed project.	• No effect.	• No effect.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
<b>Energy</b>										
• Regional Consumption (in billions of Btus/day)	• 835.58	• 835.58	• 838.22	• 834.47	• 835.57	• 835.61	• 835.60	• 835.59	• 835.55	• 835.65
• BART Electrical Requirements (in millions of Btus/day)	• 300.03	• 295.37	• Not Applicable.	• Not Applicable.	• 290.25	• 333.91	• 322.85	• 307.0-307.53	• 267.89	• 371.29
<b>Section 4(f) Evaluation</b> (Loss of parklands)										
	• Herman Tot Lot and 7th & Walnut Parks in San Bruno.	• 7th & Walnut Park in San Bruno.	• No effect.	• No effect.	• Posy Park in San Bruno.	• Marino Vista Park in Millbrae.	• Posy Park in San Bruno and Marino Vista Park in Millbrae.	• Posy Park in San Bruno.	• Posy Park in San Bruno.	• No effect.

Note: Bold and underlined impacts indicate significant and unavoidable impacts.

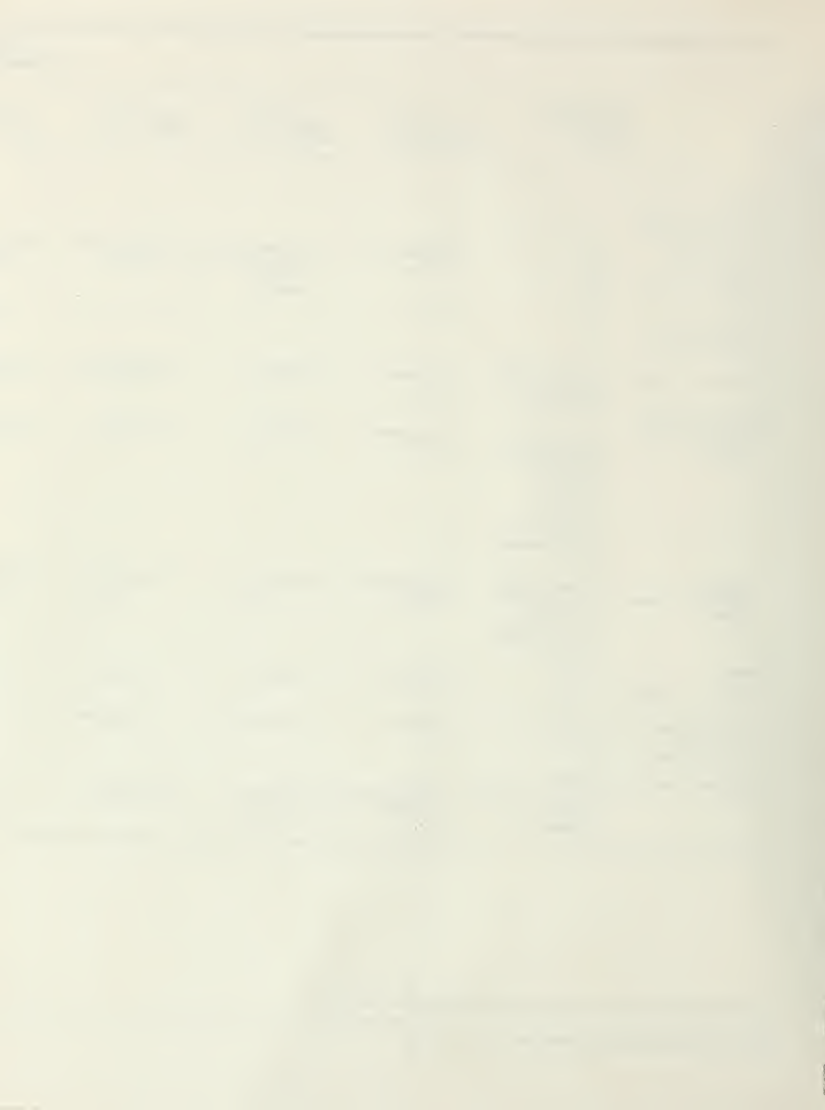


Table S-8  
Summary of Mitigation Measures\*

Issue	Proposed Project	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Transit Ridership</b>	• None required.	• None required.	• None required.	• None required	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.
<b>Traffic</b>										
• Freeways	• Consider improved transit service to BART stations. • Extension of sixth lane on southbound Highway 101.	• Same as proposed project.**	• None required.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Consider improved transit service to BART stations.
• Local Intersections	• Local intersection improvements.	• Same as proposed project.	• None required.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Parking	• Additional parking at Tanforan and Chestnut Stations. • Residential permit parking program. • Barriers and security standards at shopping center parking structures. • Restrictions at BART parking structures. • Pricing surcharges and other mechanisms at BART extension stations.	• Same as proposed project.	• None required.	• Additional parking at Daly City and Colma Stations.	• Same as proposed project <i>plus</i> • Additional parking at Chestnut Station.	• Same as proposed project excluding additional parking at Tanforan Station.	• Same as Alternative IV.	• Same as Alternative IV including parking meters on commercial streets.	• Same as Design Option V-A.	• Residential permit parking program. • Restrictions at BART parking structures.
<b>Land Use</b>										
• General Plan Consistency	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.
• Displacement	• Compliance with state and federal acquisition and relocation laws. • Tanforan Shopping Center replacement parking.	• None required	• None required.	• None required.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project excluding Tanforan replacement parking.
• Community Cohesion/ Local Economic Activity in Station Vicinity	• Compliance with state and federal acquisition and relocation laws. • Implementation of the mitigation measures in Section 3.1, Transportation, related to traffic and spillover parking control; Section 3.3, Visual Quality, related to improving visual compatibility of the station and parking structures; Section 3.9, Noise, related to reducing noise and vibration levels to satisfy BART design criteria; and Chapter 5, Section 4(f) Evaluation, related to minimizing impacts on parklands.	• Same as proposed project	• None required.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.

\* Mitigation measures presented in this table are in some cases more general than the specific measures described in the detailed impact assessment for each issue in Chapter 3.  
\*\* Same as proposed project is used to indicate alternatives for which the generalized mitigation measures are the same as for the proposed project. The specific mitigation measures may in fact vary slightly from the proposed project, even where “same as the proposed project” is indicated.



Table S-8 (continued)  
Summary of Mitigation Measures

Issue	Proposed Project	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Land Use (continued)</b>										
<ul style="list-style-type: none"> <li>Community Cohesion/ Social Considerations (Not in Station Vicinity)</li> </ul>	<ul style="list-style-type: none"> <li>Same mitigations recommended for proposed project under Community Cohesion/ Local Economic Activity in Station Vicinity</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Noise abatement, landscaping to mitigate impacts from right-of-way.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project <i>plus</i></li> <li>Relocation of pumping station in Millbrae.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with state and federal acquisition and relocation laws and regulations. <i>plus</i></li> <li>Relocation to pumping station in Millbrae.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>
<ul style="list-style-type: none"> <li>Low Cost Housing</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with state and federal acquisition and relocation laws.</li> </ul>									
<ul style="list-style-type: none"> <li>Regional Economic Activity</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<b>Visual Quality</b>										
<ul style="list-style-type: none"> <li>Built Environment</li> </ul>	<ul style="list-style-type: none"> <li>Design of aerial structure support columns along right-of-way.</li> <li>Landscaping.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Landscaping.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project <i>plus</i></li> <li>BART station parking structure design</li> </ul>	<ul style="list-style-type: none"> <li>BART station parking structure design</li> <li>Landscaping</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>
<ul style="list-style-type: none"> <li>Scenic Resources and Significant Views</li> </ul>	<ul style="list-style-type: none"> <li>Replacement of mature trees.</li> <li>Car storage area buffer.</li> <li>Landscaping.</li> <li>ALRS Design - Guidelines.</li> <li>Soundwall vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project excluding car storage area buffer.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative II.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative II.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative II.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative II.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative II.</li> </ul>
<ul style="list-style-type: none"> <li>Sensitive Receptors</li> </ul>	<ul style="list-style-type: none"> <li>Landscaping.</li> <li>Light and glare screening.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative III.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative III.</li> </ul>
<ul style="list-style-type: none"> <li>Streetscape</li> </ul>	<ul style="list-style-type: none"> <li>Landscaping.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Preservation and enhancement of streetscapes and station entryways.</li> <li>Landscaping.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative III.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative III.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative III.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative III.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>
<b>Cultural Resources</b>										
<ul style="list-style-type: none"> <li>Direct Physical Disturbance</li> </ul>	<ul style="list-style-type: none"> <li>Memorandum of Agreement to specify the terms, conditions, and restrictions of the mitigation actions.</li> <li>Archaeological testing and compliance with applicable procedures and regulations.</li> <li>Adherence to design criteria for dewatering-related settlement of adjacent structures.</li> <li>Ongoing monitoring of impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>
<ul style="list-style-type: none"> <li>Diminution of Historic Setting</li> </ul>	<ul style="list-style-type: none"> <li>Landscaping.</li> <li>Reduction of groundborne vibration.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project <i>plus</i></li> <li>Sound walls to reduce noise levels at cemeteries and a Memorandum of Agreement for American Legion Post.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project. <i>plus</i></li> <li>Memorandum of Agreement for downtown San Bruno properties and American Legion Post.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>





Table S-8 (continued)  
Summary of Mitigation Measures

Issue	Proposed Project	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<b>Community Services</b>	<ul style="list-style-type: none"> <li>Local police and fire service improvements.</li> </ul>	Same as proposed project.	Local jurisdictions would be responsible for improvements.	None required.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.
<b>Geology, Soils, and Seismicity</b>	<ul style="list-style-type: none"> <li>Adherence to BART design criteria i.e.:</li> <li>Design of structures and facilities for seismic impacts.</li> <li>Design of deep foundations.</li> <li>Development and implementation of tunnel design standards.</li> </ul>	Same as proposed project.	None required.	<ul style="list-style-type: none"> <li>Seismic and settlement design criteria.</li> <li>Design of deep foundations.</li> </ul>	Same as proposed project excluding tunnel design.	Same as proposed project including development of seismic design data for SFIA.	Same as proposed project.	Same as Alternative IV.	Same as proposed project.	Same as Alternative IV.
<b>Biological Resources</b>	<ul style="list-style-type: none"> <li>Creation of creekside habitats and/or wetlands of equal wildlife habitat values.</li> <li>Avoidance of wetlands during construction and filling.</li> <li>Project modification to protect SFGS travel routes and habitat.</li> <li>Management and enhancement of existing aquatic habitats.</li> <li>Habitat Restoration Plan for SFGS.</li> <li>Relocation of drainage channels and other waterways.</li> <li>Oil and water separators in storm water catch basins.</li> </ul>	Same as proposed project.	Management and enhancement of SFGS habitats.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.
<b>Hydrology and Water Quality</b>										
<ul style="list-style-type: none"> <li>Flood Hazard</li> </ul>	<ul style="list-style-type: none"> <li>Elevation of facilities.</li> <li>Minimal use of landfill.</li> <li>Drainage system improvements.</li> <li>Onsite stormwater storage.</li> <li>Stormwater infiltration.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project <i>plus</i> the construction of a ditch or culvert.</li> </ul>	The City of South San Francisco would have to make flood and drainage control improvements	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.
<ul style="list-style-type: none"> <li>Soil Erosion</li> </ul>	<ul style="list-style-type: none"> <li>Installation of stream bank protection.</li> </ul>	Same as proposed project.	None required.	None required.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as the proposed project.	Same as proposed project.
<ul style="list-style-type: none"> <li>Water Quality</li> </ul>	<ul style="list-style-type: none"> <li>Oil and water separators in catch basins.</li> </ul>	Same as proposed project.	None required.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.
<ul style="list-style-type: none"> <li>Groundwater</li> </ul>	<ul style="list-style-type: none"> <li>Well replacement.</li> <li>Use of grout sealant.</li> <li>Containment of water during construction.</li> </ul>	Same as proposed project.	None required.	No effect.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.
<b>Noise</b>										
<ul style="list-style-type: none"> <li>Groundborne Noise and Vibration</li> </ul>	<ul style="list-style-type: none"> <li>Floating slab trackbed.</li> <li>Resiliently supported ties or soft rail fasteners.</li> <li>Relocation of impacted homes.</li> <li>Off-site mitigation.</li> </ul>	Same as proposed project.	None required.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.	Same as proposed project.



Table S-8 (continued)  
Summary of Mitigation Measures

Issue	Proposed Project	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
<ul style="list-style-type: none"> <li>Airborne Noise</li> </ul>	<ul style="list-style-type: none"> <li>Building enclosure and design.</li> <li>Shielding of the wheel truing machine.</li> <li>Sound barriers at access/egress doors.</li> <li>Construction of sound wall(s).</li> <li>Redesign of the turntable.</li> <li>Concrete barrier.</li> <li>Sound absorptive material for sound wall(s).</li> </ul>	<ul style="list-style-type: none"> <li>Same as the proposed project <i>plus</i></li> <li>A closed deck.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as I-380 Least-Cost Design Option.</li> </ul>	<ul style="list-style-type: none"> <li>Same as I-380 Least-Cost Design Option <i>plus</i></li> <li>off-site mitigation.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative IV.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative IV excluding a concrete barrier.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative V-A.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>
<b>Air Quality</b>										
<ul style="list-style-type: none"> <li>Regional Emissions</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<ul style="list-style-type: none"> <li>Localized CO Impacts</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<ul style="list-style-type: none"> <li>Conformity Assessment</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<b>Public Health and Safety</b>										
<ul style="list-style-type: none"> <li>Exposure to Hazardous Materials</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<ul style="list-style-type: none"> <li>Exposure to Electromagnetic Fields (EMF)</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<b>Energy</b>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>
<b>Construction</b>										
<ul style="list-style-type: none"> <li>Transportation</li> </ul>	<ul style="list-style-type: none"> <li>Coordination with local jurisdictions regarding roadway improvements, street closures, vehicle, cyclist, and pedestrian access, traffic control near elementary schools, track re-alignments, construction vehicle routes, and construction schedules.</li> <li>Coordination with SamTrans, Caltrans, and CalTrain to minimize service impacts.</li> <li>Coordination with local utilities to achieve utility line relocation.</li> <li>Passenger notification of delays.</li> <li>Possible traffic and pedestrian detour during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>None required.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>	<ul style="list-style-type: none"> <li>Same as proposed project.</li> </ul>



Table S-8 (continued)  
Summary of Mitigation Measures

Issue	Proposed Project	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
• Land Use	<ul style="list-style-type: none"> <li>• Coordination with transit agencies to minimize impacts to commuter services.</li> <li>• Coordination with cities, communities, schools, and cemeteries to minimize impacts.</li> <li>• Replacement parking for Holy Cross Cemetery.</li> <li>• Maintenance of access to businesses.</li> <li>• Restoration or replacement of displaced parks and recreation.</li> </ul>	• Same as proposed project.	• None required.	• None required.	• Same as proposed project.	<ul style="list-style-type: none"> <li>• Same as proposed project <i>plus</i> Coordination with SFIA.</li> </ul>	• Same as proposed project.	<ul style="list-style-type: none"> <li>• Same as proposed project <i>plus</i> Coordination with SFIA.</li> </ul>	• Same as proposed project.	<ul style="list-style-type: none"> <li>• Same as proposed project <i>plus</i> Coordination with SFIA.</li> </ul>
• Visual Quality	<ul style="list-style-type: none"> <li>• Cemetery landscaping and alternate cemetery access.</li> <li>• Alternate laydown/mobilization sites.</li> <li>• Laydown area visual barrier.</li> </ul>	• Same as proposed project.	• None required.	• No feasible mitigation measures.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Cultural Resources	<ul style="list-style-type: none"> <li>• Landscaping/Re-vegetation.</li> <li>• Compliance with noise limits.</li> <li>• Implementation of dust control practices.</li> <li>• Avoidance of historic structures.</li> <li>• Compliance with the Section 106 process and an MOA as required.</li> </ul>	• Same as proposed project.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Community Services	<ul style="list-style-type: none"> <li>• Early coordination of construction plans with local jurisdictions.</li> </ul>	• Same as proposed project.	• None required	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Utilities	<ul style="list-style-type: none"> <li>• Coordination with utility agencies or companies to schedule service disruption; provide temporary backup service.</li> <li>• Customer notification.</li> </ul>	• Same as proposed project.	• None required	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Geology, Soils, and Seismicity	<ul style="list-style-type: none"> <li>• Dewatering and groundwater control of excavation and tunneling.</li> <li>• Implementaion of a monitoring program.</li> <li>• Design for tunneling-induced settlement.</li> <li>• Proper selection of tunneling method.</li> </ul>	• Same as proposed project.	• None required	• None required.	<ul style="list-style-type: none"> <li>• Dewatering and groundwater control of excavation and tunneling.</li> <li>• Implementaion of a monitoring program.</li> </ul>	• Same as proposed project.	• Same as Alternative III.	• Same as proposed project.	• Same as Alternative III.	• Same as proposed project.





Table S-8 (continued)  
Summary of Mitigation Measures

Issue	Proposed Project	I-380 Least-Cost Design Option	Alternative I No Build	Alternative II TSM	Alternative III Base Case	Alternative IV Airport Aerial East of Highway 101	Alternative V Minimum Length Subway to Millbrae	Design Option V-A Minimum Length Subway to Airport GTC	Design Option V-B Minimum Length Subway to San Bruno	Alternative VI Millbrae Ave. via Airport International Terminal
• Biological Resources	<ul style="list-style-type: none"> <li>Alterations to the project right-of-way and laydown areas to avoid or reduce wetland disturbance.</li> <li>Restoration and recreation of disturbed wetlands.</li> <li>Use of sediment and silt controls.</li> <li>Use of slurry or sheet pile shoring walls.</li> <li>Use of watering truck.</li> <li>Implementation of erosion control measures.</li> <li>Management and enhancement of existing aquatic habitats.</li> <li>Habitat Restoration Plan for SFGS.</li> <li>Construction scheduling.</li> <li>Avoidance of wetlands and sensitive biotic resources.</li> </ul>	• Same as proposed project.	• None required	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Hydrology and Water Quality	<ul style="list-style-type: none"> <li>Adherence to NPDES construction permit conditions.</li> <li>Use of sedimentation ponds or tanks.</li> <li>Dry season construction.</li> <li>Maintenance of unobstructed drainageways.</li> </ul>	• Same as proposed project.	• None required.	<ul style="list-style-type: none"> <li>Same as proposed project excluding sedimentation ponds <i>plus</i></li> <li>Erosion control plan.</li> </ul>	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Noise and Vibration	<ul style="list-style-type: none"> <li>Adherence to noise and vibration limits.</li> <li>Use of noise control measures within and outside of construction limits.</li> <li>Use of proper construction equipment.</li> </ul>	• Same as proposed project.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Air Quality	<ul style="list-style-type: none"> <li>Improve traffic flow through construction parking configuration, traffic control and management, and scheduling.</li> <li>Equipment engine maintenance and best construction practices.</li> </ul>	• Same as proposed project.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Public Health and Safety	<ul style="list-style-type: none"> <li>Hazardous Materials Contingency Plan.</li> <li>Site sampling and remediation.</li> </ul>	• Same as proposed project.	• None required.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.	• Same as proposed project.
• Energy	• None required.	• None required.	• None required.	• None required	• None required.	• None required.	• None required.	• None required.	• None required.	• None required.

Source: Ogden





